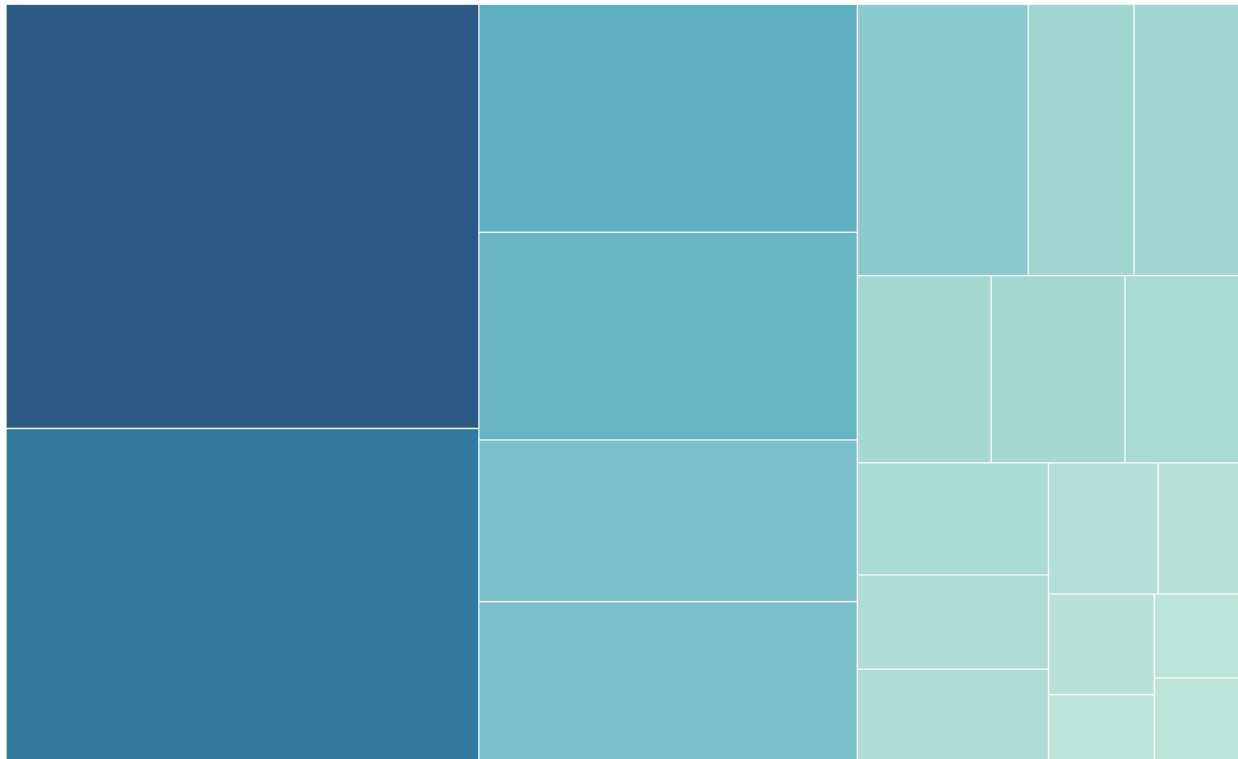


# Kentucky Primary Care Office



## 2021 Needs Assessment Report

This needs assessment was prepared by the University of Kentucky Prevention Research Center. For questions about this needs assessment contact Lynn Ann Bishop, Kentucky Primary Care Program Director, Kentucky Department for Public Health, Prevention and Quality Improvement Division, Health Care Access Branch.

Kentucky Department for Public Health, Kentucky Primary Care Office. (2021). 2021 Needs Assessment Report.

## Table of Contents

Introduction.....	3
Methods.....	4
Secondary Data.....	4
Primary Care Needs Survey.....	6
Interviews.....	6
Stakeholders.....	7
Kentucky Overview.....	8
Demographics .....	8
Shortage Areas.....	9
Health Professional Shortage Areas: Primary Care .....	9
Health Professional Shortage Areas: Dental Care .....	9
Health Professional Shortage Areas: Mental Health Care .....	10
Workforce Recruitment and Retention .....	11
J-1 Visa Waiver.....	11
National Health Service Corps Program.....	11
Primary Care Needs: County Rankings.....	12
Health Status Indicators.....	12
Health Access Indicators.....	13
Primary Care Needs Survey and Interview Results .....	15
Respondent Characteristics.....	15
Health Issues.....	18
Disparate Populations .....	18
Health Care Access .....	19
Emerging Factors and Successes.....	23
Challenges.....	24
Primary Care Workforce.....	25
The Road Forward.....	30
Conclusion .....	31
References .....	31
Appendix A: Rankings.....	32
Appendix B: List of Acronyms .....	38

## Introduction

The 2020 Scorecard on State Health System Performance ranks Kentucky as 39 out of 51 states and the District of Columbia (The Commonwealth Fund, 2020). This ranking is unchanged from the baseline ranking in 2014. Indicators used to determine the ranking include measures of access to health care, quality of care, service use and costs, health outcomes, and income-based health care disparities.

Increasing access to health care, including primary, dental, and mental health care is the focus of the Kentucky Primary Care Office (PCO). This office identifies shortage designations by facility, population or geography. Shortage destinations are used by the National Health Service Corps and others to create loan repayments, scholarships, and other incentives to encourage primary, dental, or mental health providers to practice in areas that demonstrate health care provider shortages. Bringing more health care providers to these areas will help to decrease gaps in access to care for populations that face health disparities.

The Kentucky PCO received funding from the Health Resources and Services Administration (HRSA) to produce a needs assessment report that identifies communities with the greatest unmet health care needs. This includes collecting data that identifies health workforce shortages, disparities, and barriers to accessing health care for communities across the state. This document includes the results of this needs assessment, as well as recommendations for the development of an action plan that will guide the Kentucky PCO in creating steps for future program planning.

## Methods

The Kentucky PCO contracted with the University of Kentucky Prevention Research Center (UKPRC) to collaborate on developing this needs assessment. The main methods used in the needs assessment are 1) secondary data collection, 2) electronic survey, and 3) standardized interviews of key state partners.

### Secondary Data

Secondary data collection includes compiling socioeconomic, health status, and health access measures. Socioeconomic data were collected to provide an overview of the state. The most recent data available were collected for health status and health access measures for each county in Kentucky. Data were collected from sources that provide county-level measurements, such as County Health Rankings. County Health Rankings uses data from other sources and these are listed below. Counties were ranked according to their measurement for each topic (health status and access), where 120 is considered the worst outcome and 1 is considered the best. Measurements that are based on small numbers are not reported, as they are unstable. The average across all items of each topic (health status and access) was then calculated and these averages were ranked to provide an overall ranking of counties for health status and access.

#### Health status indicators:

**Poor or Fair:** Percentage of adults reporting fair or poor health (age-adjusted); County Health Rankings, 2020; Kentucky Behavioral Risk Factor Surveillance System, 2017.

**Physical Distress:** Percentage of adults reporting 14 or more days of poor physical health per month; County Health Rankings, 2020; Kentucky Behavioral Risk Factor Surveillance System, 2017.

**Mental Distress:** Percentage of adults reporting 14 or more days of poor mental health per month; County Health Rankings, 2020; Kentucky Behavioral Risk Factor Surveillance System, 2017.

**Obesity:** Percentage of the adults (age 20 and older) that report a body mass index greater than or equal to 30; County Health Rankings, 2020 United States Diabetes Surveillance System, 2016.

**Diabetes:** Percentage of adults (age 20 and older) who have been diagnosed with diabetes; County Health Rankings, 2020; United States Diabetes Surveillance System, 2016.

**Low Birth Weight:** Percentage of live births with low birthweight (< 2,500 grams); County Health Rankings, 2020; National Center for Health Statistics - Natality files, 2012-2018.

**Preventable Hospital Stays:** Rate of hospital stays for ambulatory-care sensitive conditions per 100,000 Medicare enrollees; County Health Rankings, 2020; Mapping Medicare Disparities Tool, 2017.

**Excessive Drinking:** Percentage of adults reporting binge or heavy drinking; County Health Rankings, 2020; Kentucky Behavioral Risk Factor Surveillance System, 2017.

**Smoking:** Percentage of adults who are current smokers; County Health Rankings, 2020; Kentucky Behavioral Risk Factor Surveillance System, 2017.

**Physically Inactive:** Percentage of adults age 20 and over reporting no leisure-time physical activity; County Health Rankings, 2020; United States Diabetes Surveillance System, 2016.

**Teen Births:** Number of births per 1,000 female population ages 15-19; County Health Rankings, 2020; National Center for Health Statistics - Natality files, 2012-2018.

**Drug OD Score:** Calculated score based on fatal and non-fatal drug overdoses. Kentucky Injury Prevention Resource Center, 2018.

Health access indicators:

**Uninsured:** Percentage of population under age 65 without health insurance; County Health Rankings, 2020; Small Area Health Insurance Estimates, 2017.

**Poverty:** Percentage of all persons living in poverty; US Census Bureau, Small Area Income and Poverty Estimates, 2018.

**Annual Mammogram:** Percentage of female Medicare enrollees ages 65-74 that received an annual mammography screening; County Health Rankings, 2020; Mapping Medicare Disparities Tool, 2017.

**Primary Care Providers:** Ratio of population to primary care physicians; County Health Rankings, 2020; Area Health Resource File/American Medical Association, 2017.

**Mental Health Providers:** Ratio of population to mental health providers; County Health Rankings, 2020; CMS, National Provider Identification, 2019.

**Dentists:** Ratio of population to dentists; County Health Rankings, 2020; Area Health Resource File/National Provider Identification file, 2018.

## **Primary Care Needs Survey**

The Primary Care Needs Survey is an electronic survey of partners that was administered in Survey Monkey. The maintenance of the survey was completed by UKPRC and the distribution by the Kentucky PCO. PCO staff shared the link with state partners and asked that they complete it and share it with local partners for participation. The survey link was also shared via email with local health departments and other health groups. The survey was open for six weeks and state partners sent a reminder to the same recipients once during this time. Data collected include perceptions about primary care needs, populations facing health disparities, health care access, and workforce concerns in Kentucky. Frequencies were calculated for answer responses and results were categorized geographically for key topics.

## **Interviews**

Standardized interviews were conducted with key state level partners by UKPRC. The Kentucky PCO identified priority partners who were considered to have important perspectives regarding health care access and workforce in Kentucky. UKPRC contacted individuals from these organizations to schedule interviews, which were conducted by phone or video conferencing (Zoom). A questionnaire was used and the interviewer took notes, as well as recorded the interview. Data were categorized into themes and results were summarized from these.

## **Stakeholders**

Stakeholders of the Kentucky PCO are important partners in the implementation of the office's goals to increase access to primary, dental, and mental health care. The Kentucky PCO's state-level stakeholders include the following organizations:

Foundation for a Healthy Kentucky

Kentucky Area Health Education Centers

Kentucky Board of Dentistry

Kentucky Board of Medical Licensure

Kentucky Cancer Consortium

Kentucky Department for Public Health

- HIV Program

- Infectious Disease

- Laboratory Services

- Maternal and Child Health

- Office of Health Equity

- Oral Health Program

- Women's Health

Kentucky Hospital Association

Kentucky Local Health Departments

Kentucky Primary Care Association

Kentucky Regional Health Information Organization

Kentucky Rural Health Association

Kentucky Office of Rural Health

Kentucky Youth Advocates

University of Kentucky Center of Excellence in Rural Health



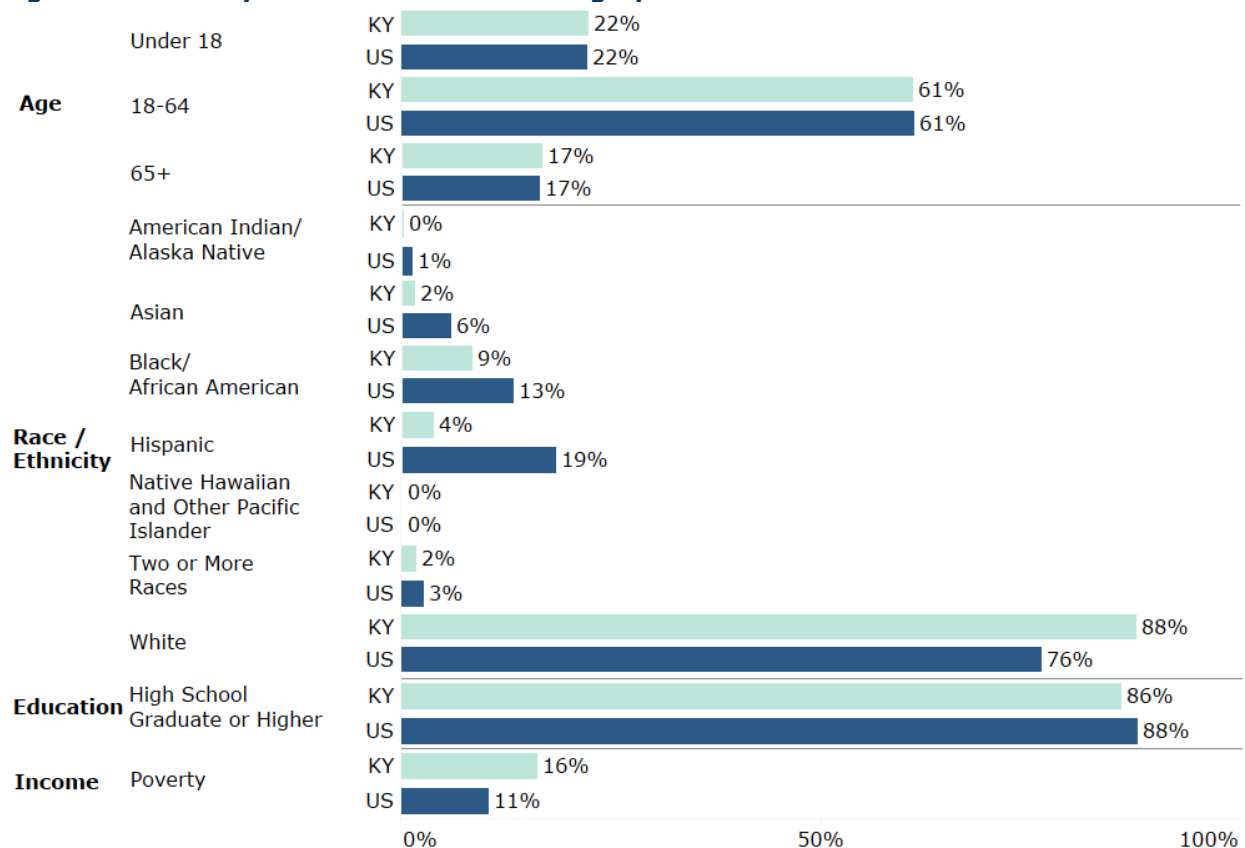
## Kentucky Overview

Kentucky is in the northern part of southeast United States and known historically for tobacco and coal production. A large part of the state is rural, including a significant area of eastern Kentucky, which is in Appalachia.

### Demographics

The estimated population of Kentucky in 2019 was 4,467,673, which is an increase of 3% from the 2010 Census (US Census Bureau, 2020). Demographics of Kentucky residents are similar to that of the United States for age, but differ in race/ethnicity, education, and poverty/income (Figure 1).

**Figure 1: Kentucky and United States Demographics**



Source: US Census Bureau Population Estimates Program and American Community Survey, 2019

## Shortage Areas

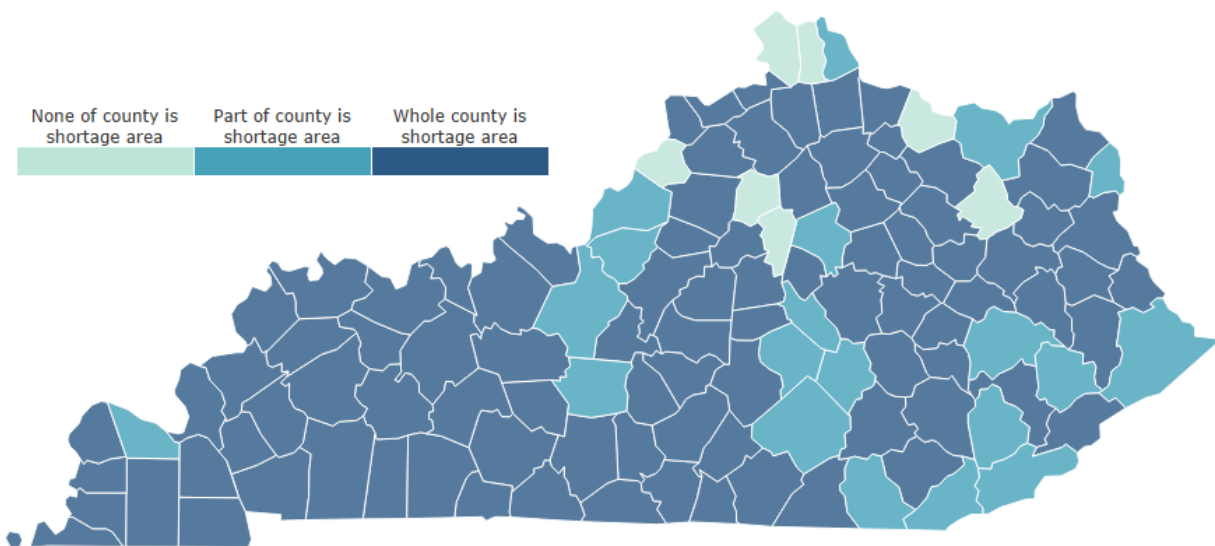
Areas that have been designated as having health care provider deficiencies in primary, dental, and mental health are considered to be Health Professional Shortage Areas. These designations can be based on geography, population, or facility. Medically underserved areas are areas that have a shortage of primary care providers, high infant mortality, high poverty, or high elderly population.

### Health Professional Shortage Areas: Primary Care

According to 2019 HPSA designations, primary care shortages are found in all but seven counties in Kentucky (Health Resources & Services Administration, 2020). In fact, 94% of counties have a primary care shortage. A majority of the primary care HPSAs in the state are entire counties. Primary care HPSAs are found in all regions of Kentucky, with a concentration in western, southern, and eastern regions (Figure 2). Centers for Medicare and Medicaid Services (CMS) HPSA Bonus Payment Program, and the CMS Rural Health Clinic Program utilize primary care HPSAs for their programs.

**Figure 2: Primary care health professional shortage areas in Kentucky, 2019**

Source: data.HRSA.gov

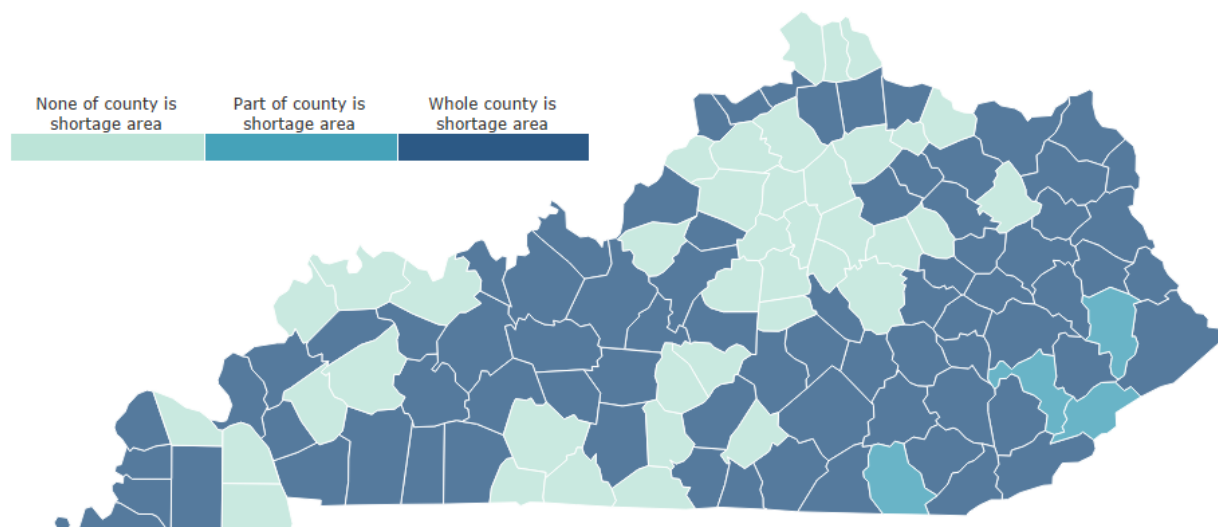


### Health Professional Shortage Areas: Dental Care

According to 2019 HPSA designations, dental care shortages are found in all but 40 counties in Kentucky (67% of the counties have a dental care shortage) (Health Resources & Services Administration, 2020). A majority of the dental care HPSAs in the state are entire counties. Dental care HPSAs are found in all regions of Kentucky, with a higher concentration in eastern Kentucky (Figure 3).

**Figure 3: Dental care health professional shortage Areas in Kentucky, 2019**

Source: data.HRSA.gov

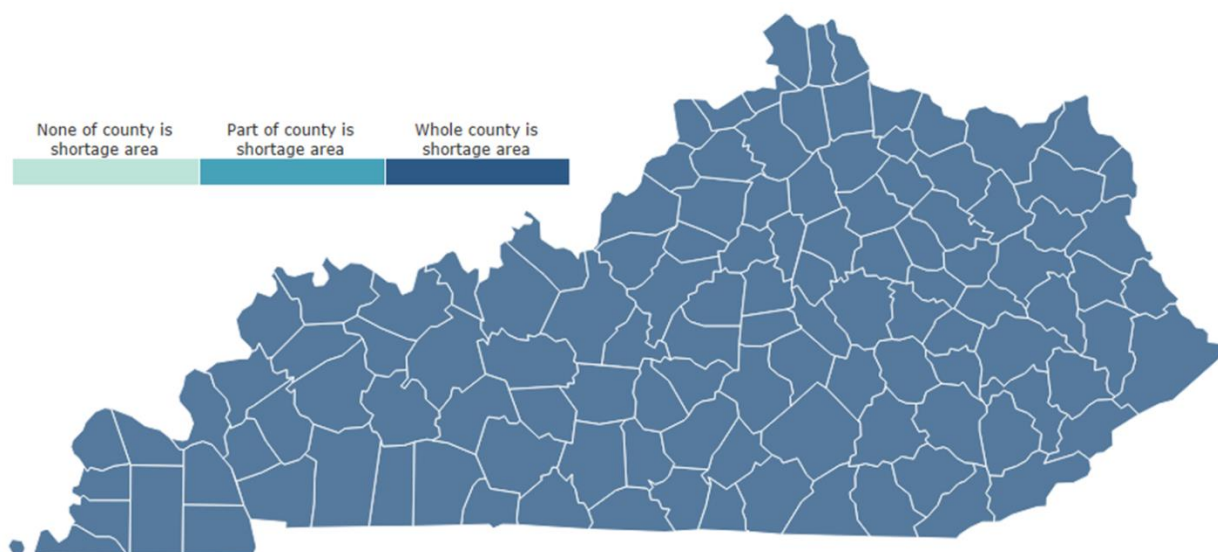


### Health Professional Shortage Areas: Mental Health Care

According to 2019 HPSA designations, mental health care shortages are found in all counties in Kentucky (100% of the counties have a mental health care shortage) (Health Resources & Services Administration, 2020). All of the mental health care HPSAs in the state cover entire counties (Figure 4).

**Figure 4: Mental health care health professional shortage in Kentucky**

Source: data.HRSA.gov



## **Workforce Recruitment and Retention**

The Kentucky PCO administers programs that improve access to health care in Kentucky by providing increased opportunities for the health care workforce. Available workforce recruitment and retention programs are described below.

### **J-1 Visa Waiver**

A J-1 Visa Waiver provides the opportunity for international medical graduates to waive the U.S. immigration law requirement. The requirement without the waiver is to return to their home country for two years, then apply for an H-1 B visa to re-enter and work for three years in the HPSAs in the U.S. There are four types of J-1 Visa Waiver programs available for international medical graduates in Kentucky.

The State 30 Program (also known as the Conrad 30 Program): This program allows for recommendation of up to 30 international medical graduates to receive U. S. State Department waivers each fiscal year, which is from October 1 to September 30 for the state of Kentucky.

Appalachian Regional Commission J-1 Visa Waiver Program: This program creates opportunities for health care providers located in an Appalachian county in Kentucky to recruit and retain international medical graduates through the J-1 Visa Waiver program.

HHS Exchange Visitor Program: This program enables a J-1 Visa Waiver manager to offer technical assistance to program applicants, as well as coordination of program opportunities.

The Delta Regional Authority: This program enables a J-1 Visa Waiver manager to provide technical assistance and program referrals to program applicants. The Delta Regional Authority program also allows for Waiver recommendations to be made to the U. S. State Department.

### **National Health Service Corps Program**

The National Health Service Corps (NHSC) Program is an initiative that builds capacity among the primary care workforce by connecting trained and licensed health care clinicians to NHSC-approved sites in areas with health care workforce shortages. Eligibility includes U.S. citizens who are physicians, dentists, nurse practitioners, certified nurse-midwives, physician assistants, dental hygienists, psychologists, licensed clinical social workers, psychiatric nurse specialists, marriage and family therapists, and licensed professional counselors.

NHSC Loan Repayment Program (LRP): The NHSC LRP is a competitive program that aims to increase employment of primary medical care, dental care, and mental health care providers in HPSAs. Eligible LRP applicants are fully-trained and licensed health professionals working at NHSC-approved sites. LRP recruits may receive monetary awards to assist with repayment of outstanding qualifying education loans.

The Kentucky State Loan Repayment Program (KSLRP): The KSLRP is a loan repayment program managed by the Kentucky Office of Rural Health. The KSLRP program provides loan repayment assistance to applicants that have qualifying education loans. Applicants must make a two-year fulltime service commitment in a HPSA in order to participate and seek a sponsoring organization that would provide 50% of the loan repayment award. The remaining dollar for dollar match is pledged from a sponsor in the community, often the clinician's employer.

NHSC Scholarship Program (SP): The NHSC Scholarship Program provides financial assistance to health professional students in need. The NHSC SP provides assistance for tuition, fees, supplies, books and a monthly living stipend. Upon completion of their degree, recipients of the SP commit to working in an area in need of increasing access to health care for the same number of years as they received educational support.

HRSA offers several NHSC incentive programs to health care participants of the NHSC, which include the LRP, SLRP and SP. Additional HRSA incentive programs include the Substance Use Disorder Workforce LRP, the Rural Community LRP, the Students to Service LRP, and the Nurse Corps. The NHSC LRP, SP and SLRP are the programs used most often in Kentucky.

## Primary Care Needs: County Rankings

Health status and health access for each county in Kentucky were ranked according to their measurement for each topic, where 120 is considered the worst outcome and 1 is considered the best. The average across all items of each topic is included in the tables. These averages were ranked to provide an overall ranking of counties for health status and access. The rankings are shaded in the tables as shown in Figure 5. Measurements without ranking numbers are not shown because of small numbers.

**Figure 5: Shading range (1 = best outcome/ 120= worst outcome)**



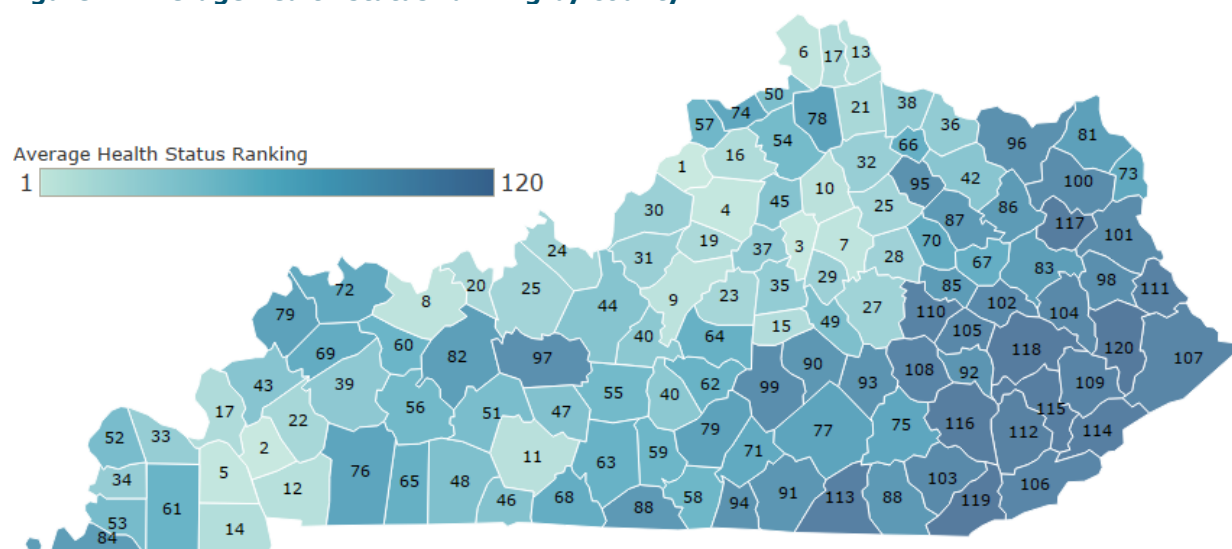
## Health Status Indicators

Health status indicators are measures of outcomes and factors that determine length and quality of life. Poor or fair health, physical and mental distress, and birth weight are health status indicators that are outcomes of other indicators that play a role in health status, such as tobacco use, exercise, and alcohol and drug use. Figure 6 shows the five lowest and highest ranking counties in terms of health status indicators, along with the ranking for each indicator and county. Figure 7 shows the average ranking for health status indicators geographically. The lowest ranking (better outcome) counties in terms of health status indicators are Oldham, Lyon, Woodford, Shelby, and Marshall. The highest ranking (worse outcome) counties in terms of health status indicators are Clay, Elliott, Breathitt, Bell, and Floyd. All counties and their health access rankings can be seen in Appendix A, Table A1.

**Figure 6: Five lowest and highest ranking counties based on health status indicators (low rank= better outcome/ high rank= worse outcome)**

County	Poor or Fair	Physical Distress	Mental Distress	Obesity	Diabetes	Low Birth Weight	Preventable Hospital Stays	Excessive Drinking	Smoking	Physically Inactive	Teen Births	Drug OD Score	Average Health Ranking
Lowest ranking counties (best health status)													
Oldham County	1	1	1	1	6	5	5	114	1	1	1	47	1
Lyon County	13	7	6	3	34	11	25	70	11	48	29	32	2
Woodford County	9	11	10	26	8	36	1	97	4	4	2	86	3
Shelby County	15	13	11	16	35	23	24	98	8	18	11	72	4
Marshall County	11	12	17	93	20	7	23	79	12	28	24	30	5
Highest ranking counties (worst health status)													
Clay County	119	116	116	71	48	119	110	24	119	87	110	90	116
Elliott County	114	113	110	105	110	111	61	20	115	97	114	83	117
Breathitt County	116	114	114	90	117	114	109	10	113	77	112	68	118
Bell County	113	118	117	83	118	105	102	3	116	108	116	79	119
Floyd County	115	112	112	114	97	103	112	7	100	101	113	94	120

**Figure 7: Average health status ranking by county**



## Health Access Indicators

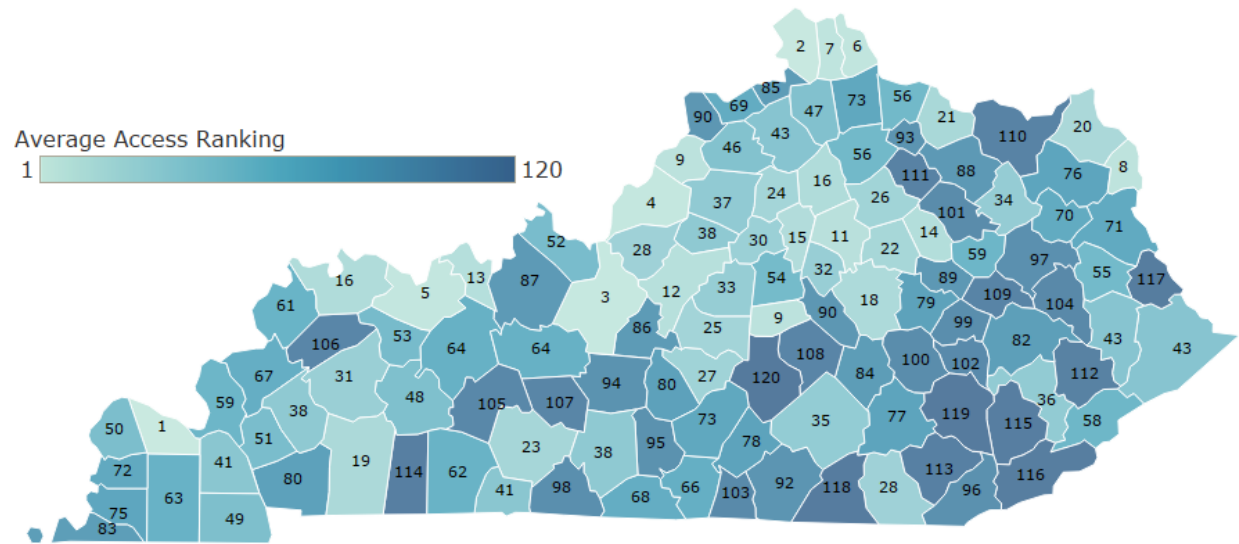
Health access indicators are measures of access and quality of care, such as the rate of health care providers and the rate of preventable hospital stays. Accessing health care in a timely manner contributes to healthier lifestyles with an increase in prevention and early detection of diseases. Figure 8 shows the five lowest and highest ranking counties in terms

of health access indicators, along with the ranking for each indicator and county. Figure 9 shows the average ranking for health access indicators geographically. The lowest ranking (better outcome) counties in terms of health access indicators are McCracken, Boone, Hardin, Jefferson, and Daviess. The highest ranking (worse outcome) counties in terms of health access indicators are Harlan, Martin, McCreary, Clay, and Casey. All counties and their health access rankings can be seen in Appendix A, Table A2.

**Figure 8: Five lowest and highest ranking counties based on health access indicators (low rank= better outcome/ high rank= worse outcome)**

County	Uninsured	Poverty	Annual Mammogram	Primary Care Providers	Mental Health Providers	Dentists	Average Access Ranking
Lowest ranking counties (best health access)							
McCracken County	23	29	4	4	23	4	1
Boone County	2	2	11	24	47	16	2
Hardin County	7	21	40	25	8	5	3
Jefferson County	52	36	9	5	13	3	4
Daviess County	18	32	1	36	15	20	5
Highest ranking counties (worst health access)							
Harlan County	87	114	117	79	99	67	116
Martin County	88	119	111	69	88	116	117
McCreary County	111	115	116	90	50	111	118
Clay County	116	118	120	58	92	101	119
Casey County	119	98	102	115	64	108	120

**Figure 9: Average health access ranking by county**

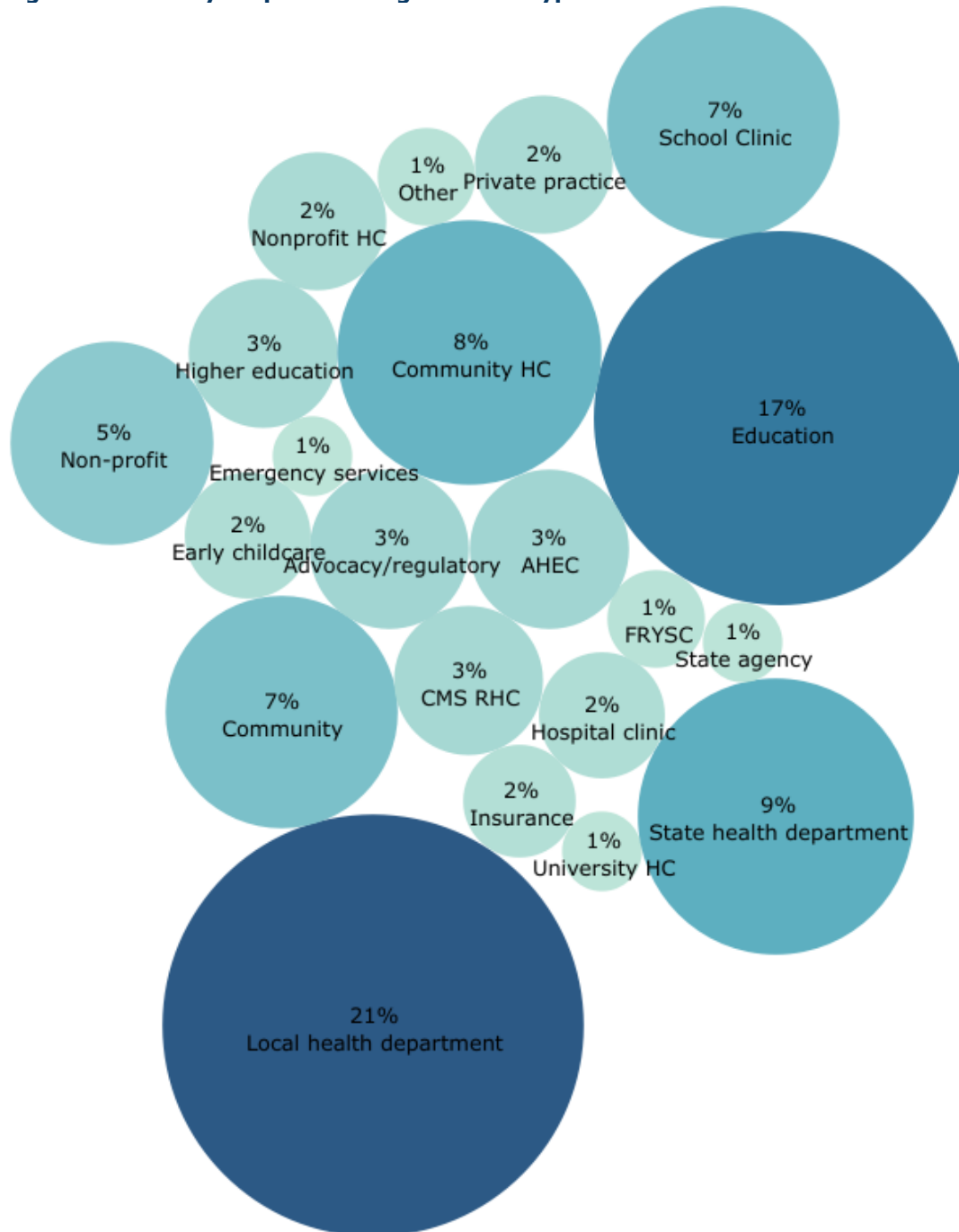






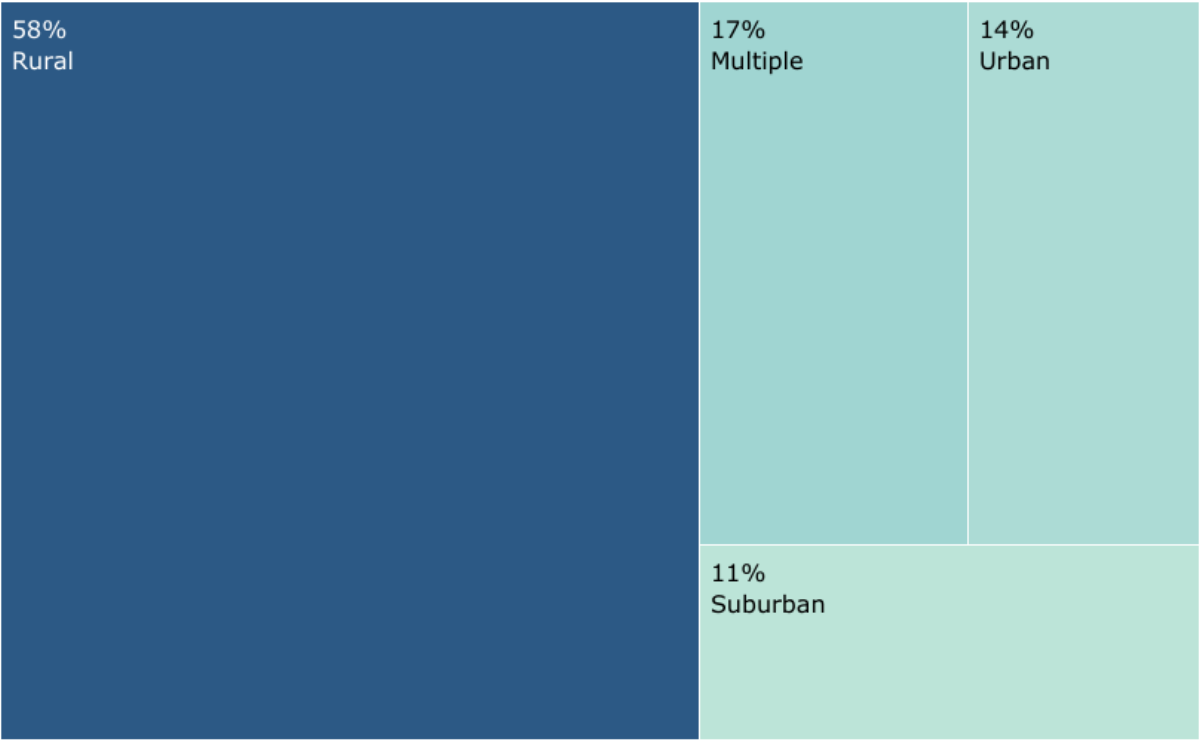


**Figure 10: Survey respondent organization types**



Note: 'Other' includes professional, religious, and local government.

**Figure 11: Type of survey respondent organization service area- rural, urban, or suburban**

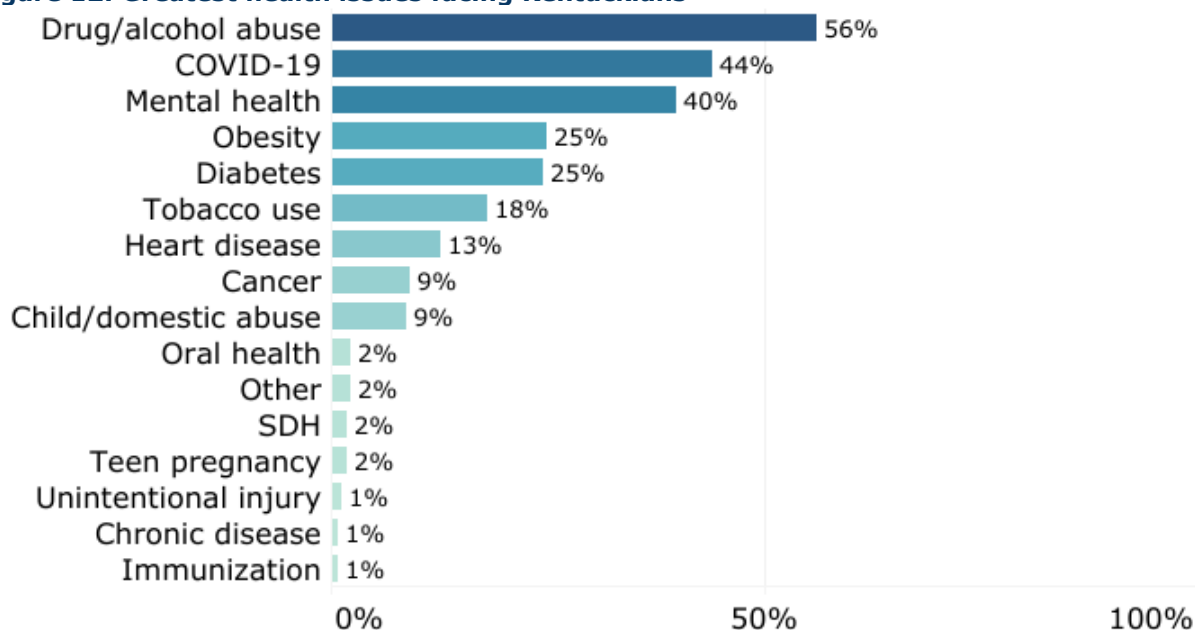


## Health Issues

Survey and interview respondents shared the information about the greatest health issues facing the communities their organizations serve. A majority of survey respondents said that one of the greatest health issues in their community is drug and alcohol abuse (Figure 12). This is followed by COVID-19 and mental health issues.

Interview data echoed survey results and provided additional context on the causes of health issues that Kentuckians face. These include poverty, low health literacy, social determinants of health, uncertainty in some medical providers, parental incarceration, and what one interviewee termed “cultural fatalism,” or the idea that certain cultural behaviors, including eating habits, are a part of the way of life in Kentucky. Another interviewee shared that Kentuckians have negative attitudes towards those outside their community that tell them their “way of life isn’t ideal,” including behaviors relating to nutrition and exercise.

**Figure 12: Greatest health issues facing Kentuckians\***



Note: ‘Other’ includes asthma/allergies, homicide, trauma, and aging. Percentages do not add to 100 because multiple answers could have been selected.

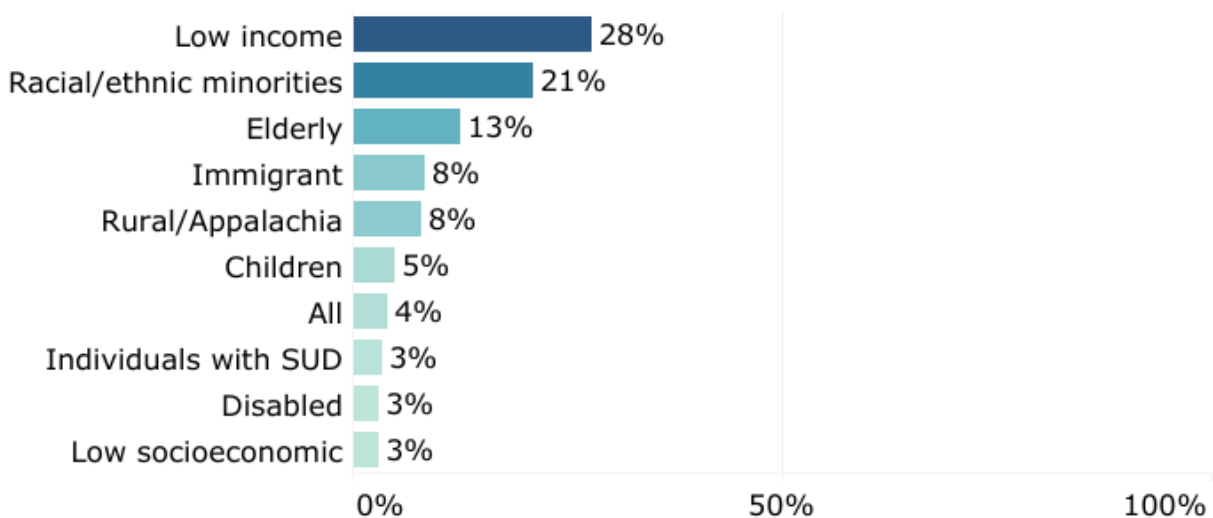
## Disparate Populations

Respondents shared information on populations that face health disparities, including differences in access to care and health outcomes, in the communities where they work. Survey respondents were most likely to say that low income populations face greater health disparities, followed by racial/ethnic minorities (including Black/African American, Hispanic/Latino, and indigenous populations), and elderly (Figure 13). Other populations not shown include low education; uninsured; homeless; unemployed; middle age; middle income; pregnant; lesbian, gay, bisexual, transgender, and queer (LGBTQ); the mental health population; and others. The ‘Immigrant’ category includes the following

populations: immigrants, undocumented immigrants, refugees, migrants, and those with English as a second language.

Interview respondents echoed these results, stating that those in poverty; minorities; uninsured and underinsured, such as the mid-low income working poor; populations with language barriers; and rural populations, including eastern and western Kentuckians face a higher degree of unmet health care needs.

**Figure 13: Disparate Populations of Kentucky\***

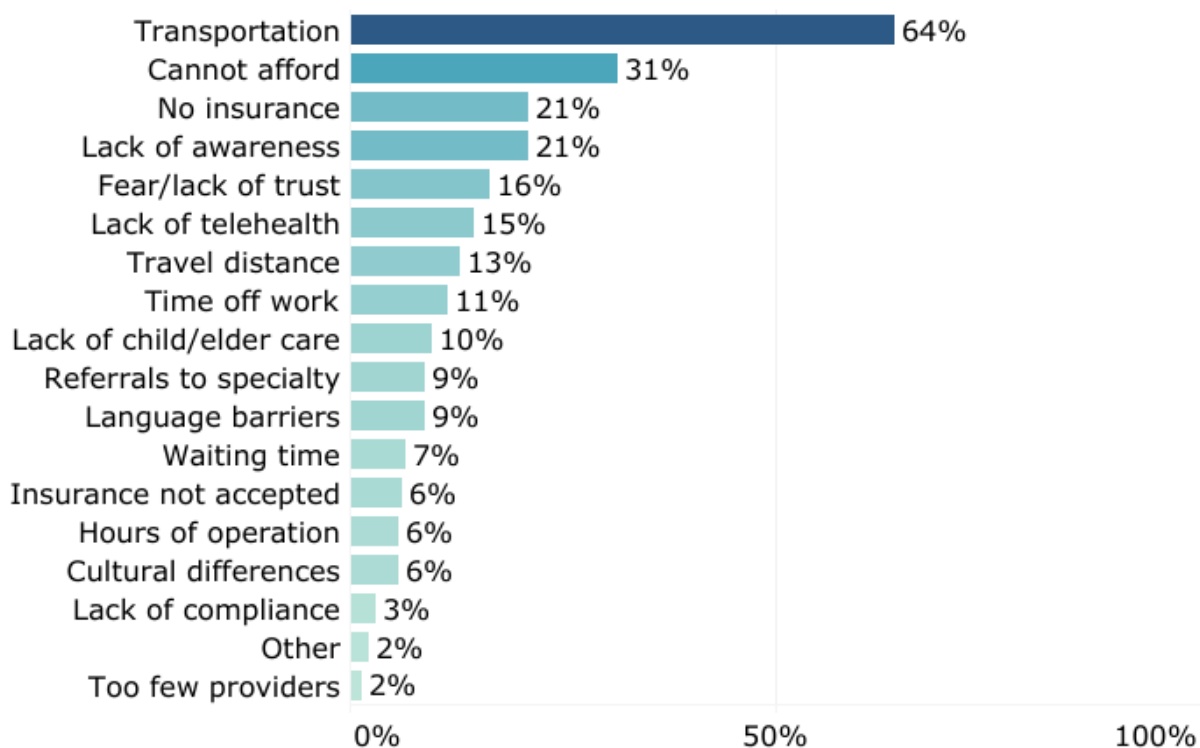


Note: Percentages do not add to 100 because multiple answers could have been selected.

## Health Care Access

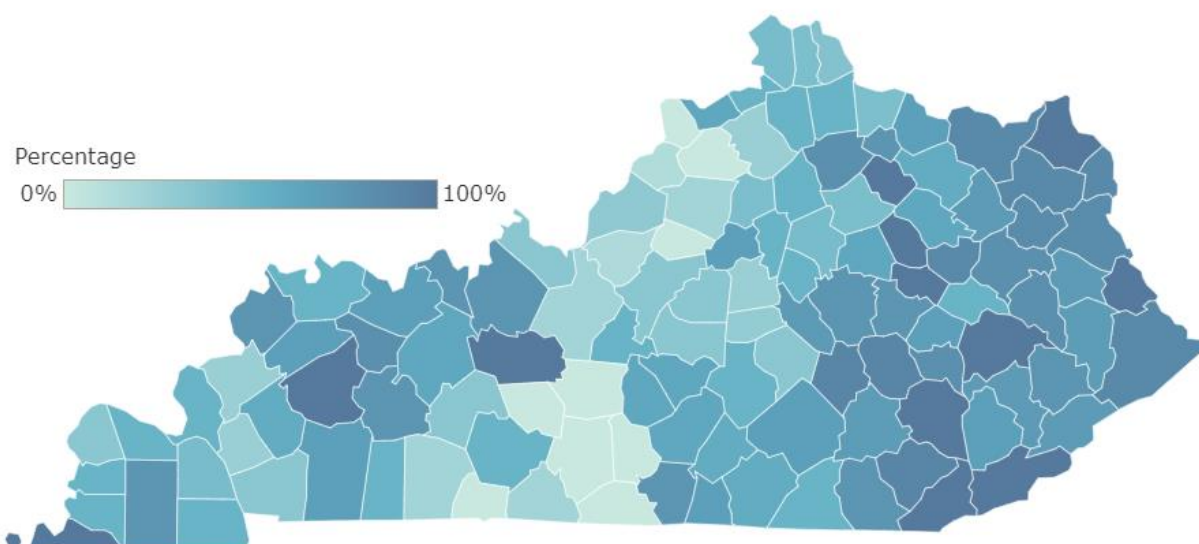
Respondents shared information on the greatest barriers that patients face when accessing care in the communities where they work (Figure 14). Transportation was cited as the greatest health access issue by survey respondents, followed by inability to afford care, lack of insurance and lack of awareness of services. Geographically, survey respondents were more likely to state that transportation, affordability, and lack of insurance were barriers to accessing health care if their organizations served counties in the eastern and western areas of the state, compared to organizations covering central Kentucky (Figures 15-17). Respondents from organizations serving western counties cited lack of awareness as a barrier more often (Figure 18).

**Figure 14: Greatest barriers for patients accessing care in Kentucky\***

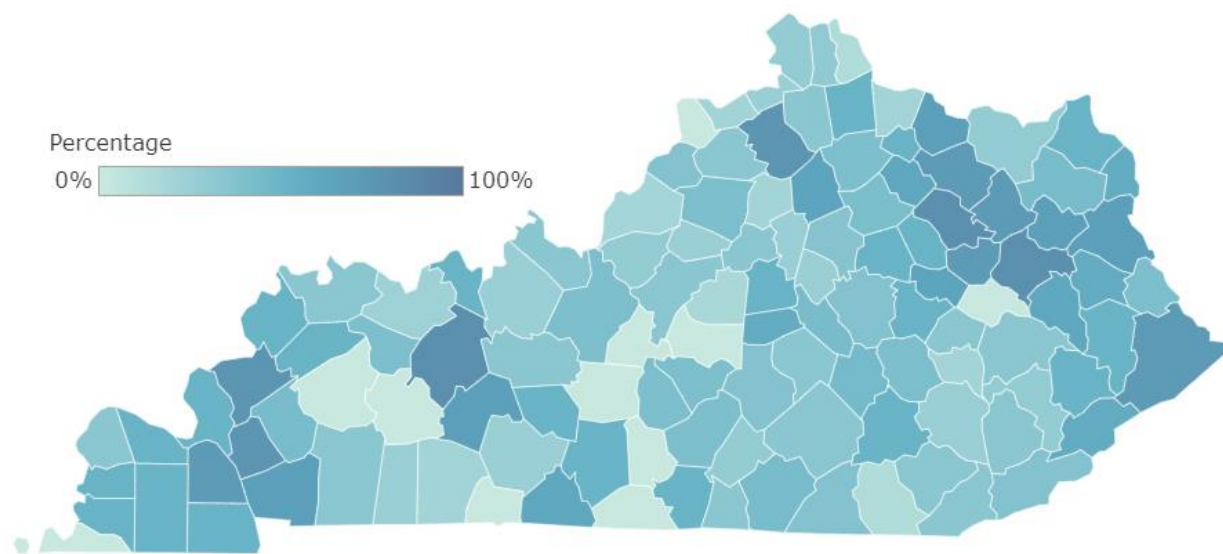


Note: 'Other' includes provider bias, housing issues, and COVID19 fears. Percentages do not add to 100 because multiple answers could have been selected.

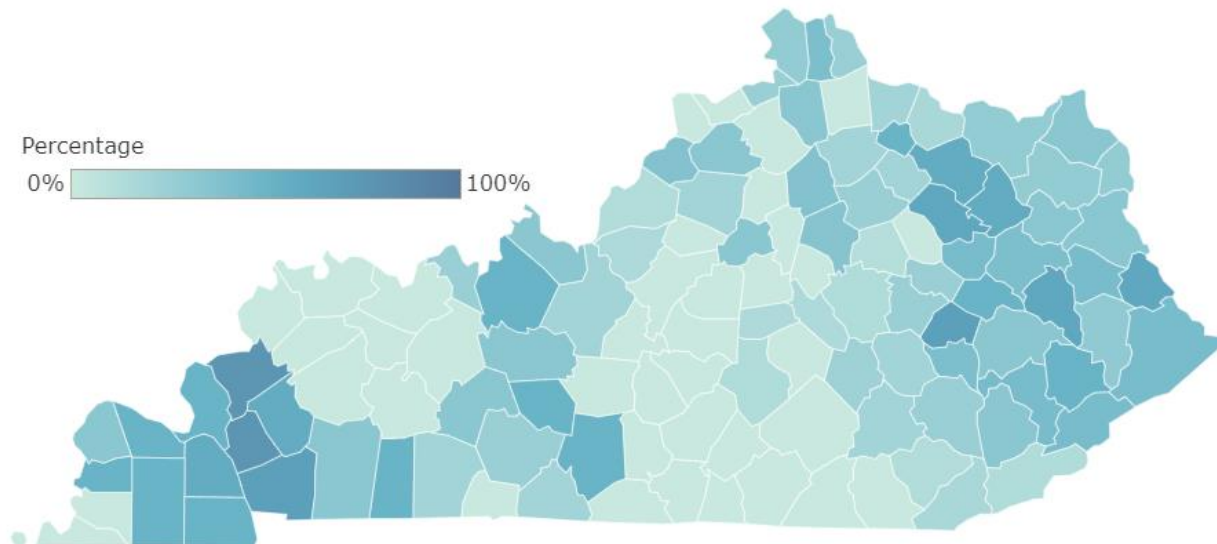
**Figure 15: Percentage of respondents that stated **lack of transportation** is a barrier to accessing health care in their community, by county of organization**



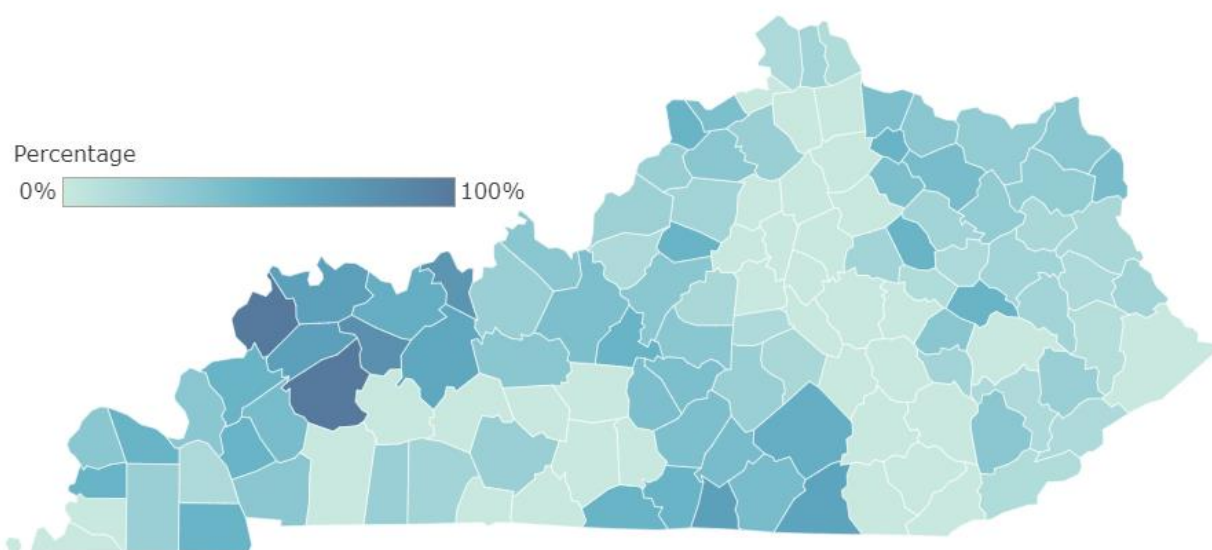
**Figure 16: Percentage of respondents that stated **affordability** is a barrier to accessing health care, by county of organization**



**Figure 17: Percentage of respondents that stated **lack of insurance** is a barrier to accessing health care, by county of organization**



**Figure 18: Percentage of respondents that stated lack of awareness of services is a barrier to accessing health care, by county of organization**



Interview respondents shared additional information about health care access issues in Kentucky, including challenges relating to workforce. A lack of in-network providers, providers accepting Medicaid, and providers accepting new patients are pieces of this challenge. Multiple interviewees stated that there is a need for more dental providers that accept Medicaid, with one saying, “we definitely don’t have enough Medicaid dental providers.” This theme came up in the survey comments, as well. Another interviewee stated that there is a lack of psychiatrists in their region due to insufficient training opportunities in the state.

“We definitely don’t have enough Medicaid dental providers.”

Aside from transportation, rural areas offer additional challenges for accessing a healthy lifestyle. Multiple interviewees stated that exercise opportunities are missing in the area where they live and work. One commented that they “don’t have the ability to go walk out on the road or run. There are coal trucks. There is no structure there for exercise.”

Interviewees stated that not having health insurance is an access issue as well, specifically with non-citizens, and lack of translation services can be a barrier for this group to access care. Even with insurance, copays can cause barriers, as some individuals are unable to afford payment. Likewise, mistrust in providers or the health care system are

We “also have to think about health care access as: if they build it why don’t they come.” We need to consider whether or not everyone “feels respected and valued by the health care system.”



barriers for some groups, including in western Louisville, northern Kentucky, and Appalachia. Interviewees stated that these groups do not feel comfortable receiving health care due to mistrust, which poses access challenges even when transportation and insurance are not issues. One interviewee said that transportation is important, but we “also have to think about health care access as: if they build it why don’t they come.” We need to consider whether or not everyone “feels respected and valued by the health care system.”

## Emerging Factors and Successes

Emerging factors that increase access to primary care in survey respondents’ communities include telehealth and Medicaid expansion (Figure 19). Interviewees said telehealth is a facilitator to increasing access to health care because it has “opened borders” for individuals accessing primary, dental, and mental health care by eliminating or reducing many access issues, and these capabilities have been fast-tracked due to the COVID19 pandemic. Telehealth provides an opportunity for individuals without personal or public transportation to receive care. It also reduces caregiver barriers of individuals needing child or elder care in order to see a provider. Telehealth reduces stigma barriers, as well. One interviewee stated that telehealth can increase the likelihood of individuals seeking mental health care because they will not worry about being recognized at a mental health clinic in a small rural town.

Multiple interviewees stated that the implementation of Federally Qualified Health Centers (FQHC) is a success in Kentucky. One interview respondent stated that Kentucky’s FQHCs are “among the more robust and well-developed” in the nation and many offer a “full-spectrum” of care that includes primary, dental, and mental health services. Another interviewee said the integration of mental, behavioral, and primary care in FQHCs helps to reduce stigma for some individuals because “no one knows what you are coming for.”

The opening of school health centers was another example of a success shared by interviewees in Kentucky, including the offering of primary, dental, and mental health care in school settings through school based clinics and programs. An additional school health program that was noted as a success is the Public Health Dental Hygiene Program, administered by the Kentucky Oral Health Program. This program sends teams to schools in rural areas to provide preventive dental services and refers children to dental offices, often for their first visit.

Interviewees also said that the COVID19 pandemic has led to successes in primary, dental and mental health care in Kentucky. This includes the increase in telehealth; funding for providers; and increased innovation, flexibility and collaboration by providers and partners. One interviewee said it was inspiring to see providers and administrators in rural areas “adapt

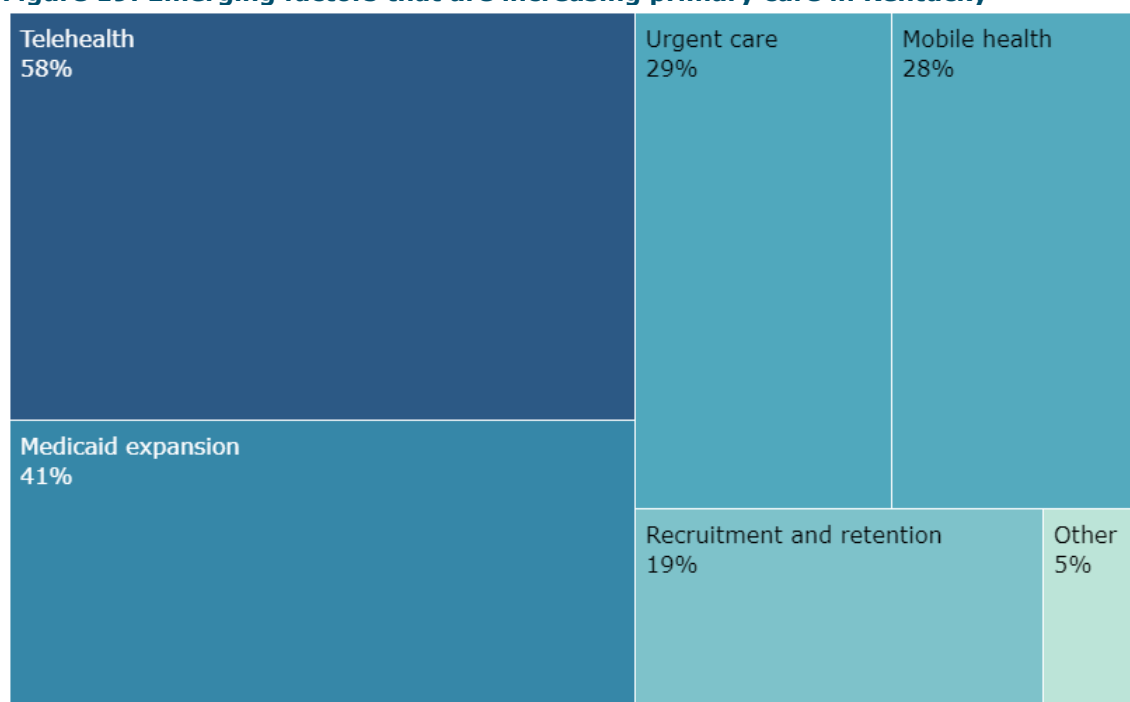
Health systems are becoming more aware as Kentucky makes the move to value-based care, “recognizing that if we are going to be compensated for outcomes rather than procedure, prevention becomes important, and then getting into communities becomes important.”



and embrace” the situation by setting up pop-up tents to be able to see patients outside of clinics, partnering with churches and civic centers to hold screening events in larger areas, and providing tablets and internet access to patients in clinic parking lots for telehealth visits.

Other emerging factors and successes shared by interviewees include the growth of retail medicine; mobile units; leadership that prioritizes health; parity to provide insurance coverage for mental health visits; and the use and training of patient navigators or community health workers, which are seen as trusted entities in the community. One interviewee stated that a facilitator now is that health systems are becoming more aware as Kentucky makes the move to value-based care, “recognizing that if we are going to be compensated for outcomes rather than procedure, prevention becomes important, and then getting into communities becomes important.”

**Figure 19: Emerging factors that are increasing primary care in Kentucky\***



Note: ‘Other’ includes provider bias training, school clinics, raising awareness, church screenings, CHWs, discount program, and walk-in clinics. Percentages do not add to 100 because multiple answers could have been selected.

## Challenges

While telehealth was described by both survey and interview respondents as an aid to individuals accessing health care, many said there are challenges for telehealth. An overarching challenge is a lack of internet coverage across the state, particularly in rural areas. One interviewee said that “internet is not the same up in the hollows and in the real rural

“Internet is not the same up in the hollows and in the real rural parts of Kentucky.”

parts of Kentucky,” with some counties having no internet service at all. This is followed by individuals not having the equipment to engage in telehealth. Additionally, if internet coverage does exist, low income individuals may be limited to a certain number of minutes on their phone plans, which reduces their ability to have a health care visit, or have a fear of using telehealth because of privacy issues (not wanting others in the patient’s home to hear or fearing there are others on the provider side listening in).

FQHCs were noted as primary, dental, and mental health care successes by interviewees, but there are a limited number of these centers in the state. An interviewee stated that, while FQHCs are helping to increase access to health care, the impact is not broad enough to reach everyone. Kentucky has Rural Health Centers (RHC), which improve access to care by being located throughout the rural areas, but according to a survey respondent, RHCs may have limited resources. Further, not all FQHCs or RHCs offer comprehensive services, such as integrated behavioral health and dental care. Mobile units were also named as a facilitator to increase access to health care, but there is currently only one dental mobile unit and more are needed to “start to answer the need in eastern Kentucky.”

Also noted by interviewees as a success was the introduction of parity to provide insurance coverage of mental health visits. However, multiple interviewees shared limitations to parity, including how much the insurance covers and loop holes which lead to gaps in reimbursement for mental health providers. Interviewees described other challenges relating to insurance, such as insufficient reimbursement for primary care providers and dentists and provider “burnout” caused by the “amount of documentation required to get reimbursement and to make sure you are hitting all the marks and checking boxes.” Another interviewee said that, with Medicaid, it takes more time to understand the system and to be reimbursed at an adequate level and not a lot of providers accept Medicaid because of that. Echoing this, a different interviewee stated that it costs the same, if not more, for dental providers to treat Medicaid patients because they need more management and time, as their presentations are usually more severe. This also reduces the willingness of some dentists to see patients with Medicaid coverage.

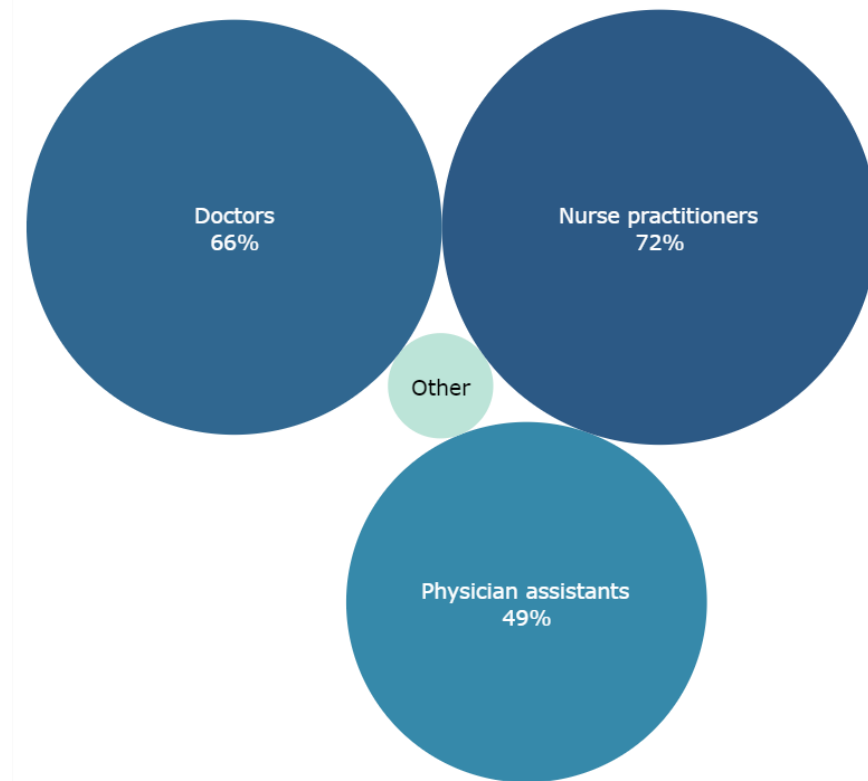
Other challenges in primary, dental, and mental health care shared by interviewees are the stigma around mental health, which includes individuals not wanting others to know they are being treated for a mental health issue because they fear being looked down upon. Individuals’ fears and mistrust of providers are also challenges that Kentucky faces regarding increasing access to health care, particularly for those who never or rarely receive health care. One interviewee stated that “our biggest challenge is how to reach those people and comfort them so that they will seek care.”

### **Primary Care Workforce**

Types of providers that most often deliver health care in respondents’ communities were most commonly said to be nurse practitioners and doctors (Figure 20). Nearly half of respondents stated that physician assistants deliver health care, as well. A lower percentage of survey respondents from organizations in some central counties stated that doctors deliver health care, compared to other areas of the state (Figure 21). Similarly, a lower percentage of survey respondents from organizations in some central and northern counties stated that nurse practitioners deliver health care (Figure 22). A higher

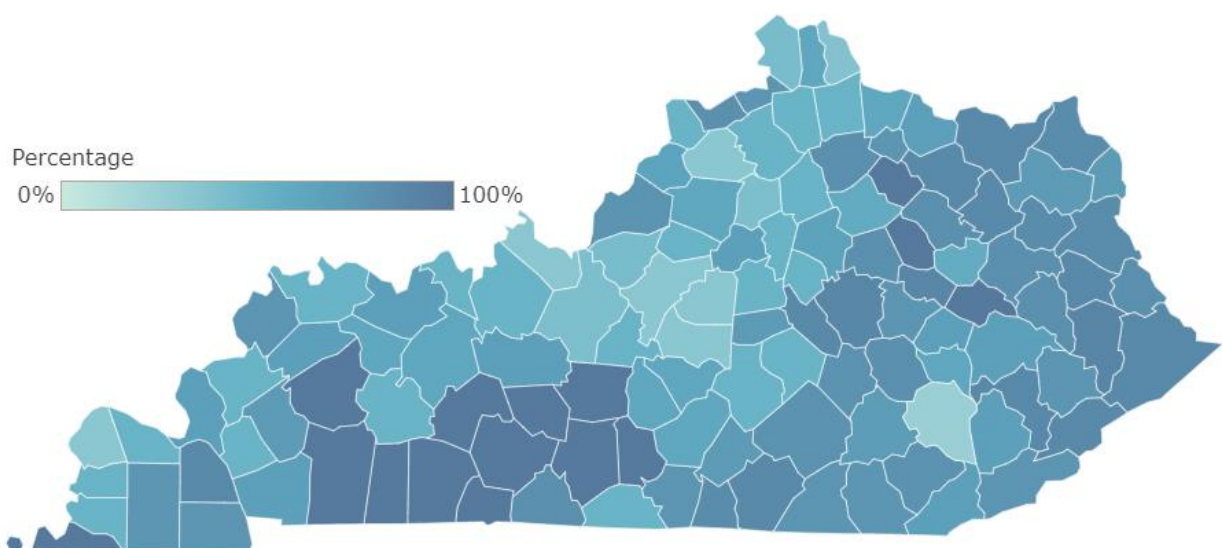
percentage of survey respondents from organizations serving eastern counties stated that physician assistants delivered health care, compared to other areas (Figure 23).

**Figure 20: Types of providers that deliver health care in Kentucky\***

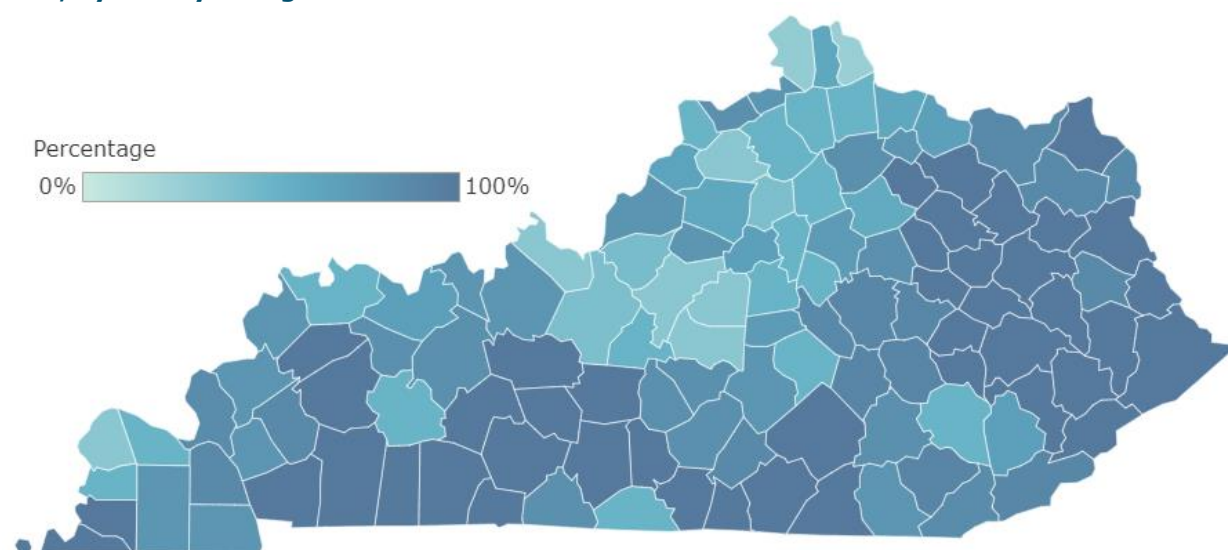


Note: 'Other' includes midwives, home health aides, school nurses, registered nurses, and allied health professionals. Percentages do not add to 100 because multiple answers could have been selected.

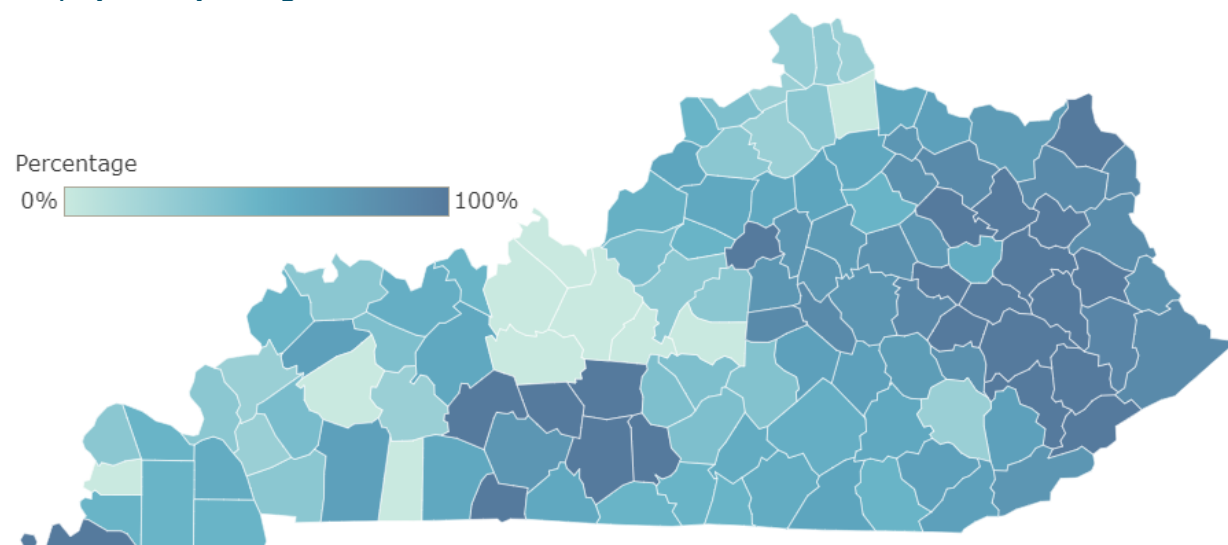
**Figure 21: Percentage of respondents that stated that doctors deliver health care, by county of organization**



**Figure 22: Percentage of respondents that stated that nurse practitioners deliver health care, by county of organization**



**Figure 23: Percentage of respondents that stated that physician assistants deliver health care, by county of organization**



The three greatest primary care workforce concerns facing Kentucky communities include a lack of providers in rural areas, retention of staff, and lack of competitive salary/benefits (Figure 24). Interviewees shared more information, with one stating that “there is a huge need for education in mental health, for developing professionals in mental health.” Another said that there are not enough dental providers in rural areas and for those that are there, the hours they are available are not sufficient. Another workforce concern shared was that the starting pay for primary care providers in rural areas is, at times, not enough to pay loans when just starting their career.

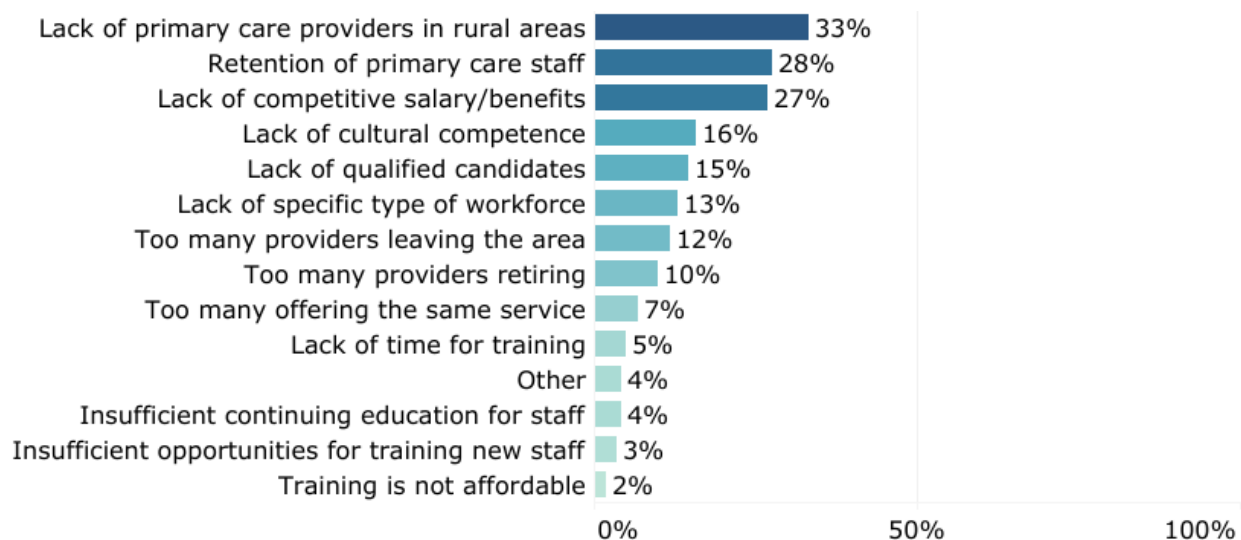
When asked if the primary care workforce in Kentucky is strong or weak, most interviewees said that while the state's providers are dedicated and committed, the workforce numbers are weak. One person stated, "I think [the primary care workforce is] weak because we've created structures that reduce the attractiveness of being in primary care—the amount of burden on primary care [providers] to be all things to all people." However, multiple interviewees also said that progress has been made in the primary care workforce in Kentucky in recent years, such as increasing numbers of nurse practitioners and physician assistants providing care, which allows providers to work "at the scope of their license."

"I think [the primary care workforce is] weak because we've created structures that reduce the attractiveness of being in primary care—the amount of burden on primary care [providers] to be all things to all people."

Regarding the dental workforce, interviewees stated the numbers are weak. One interviewee said, "availability does not always equal access" because dentists limit the number of Medicaid patients they see (as described earlier). Many interviewees stated that the dental workforce in Kentucky has "maldistribution." While the ratio of people to dentists in Kentucky is close to that of the nation and there are enough dentists to address the need in urban and suburban areas of the state, there are many rural areas with too few dentists to serve the needs of residents. Some rural counties in both western and eastern Kentucky have no dentist at all, do not have dentists that accept Medicaid, or lack dentist that are trained in pediatrics.

The mental health workforce was described by interviewees as weak. One interviewee stated that part of the challenge relates back to reimbursement and compensation levels, which are not adequate to attract or keep this workforce. This includes payments for psychologists, psychiatrists, and licensed clinical social workers, which all need compensation levels that will attract them to do a demanding role. Another interviewee said that the mental health workforce in Kentucky has made progress because of an increase in awareness and recognition of mental health issues, but overall it is weak due to being overwhelmed with the opioid crisis and substance use disorder. Multiple interviewees stated that there is an increased need for behavioral health nurse practitioners. One described a challenge that there are currently not enough behavioral health nurse practitioners in the state to serve as preceptors to train the amount of these practitioners we need for the next generation.

**Figure 24: Primary care workforce concerns\***



Note: 'Other' includes lack of recognition programs, not having enough time with patients, providers not accepting new patients, lack of practice sites, long wait times for new patients, and a need for CHWs and reimbursement for these. Percentages do not add to 100 because multiple answers could have been selected.

Survey respondents were more likely to state that the NHSC Loan Repayment Program and the Kentucky NHSC Loan Repayment Program were available programs in their community (Figure 25). Nearly three fourths of respondents left this question blank or stated they were unsure of what programs were available.

Benefits of these programs cited by both survey and interview respondents are that they assist the provider by paying back education loans, encourage providers to work in rural areas they may not have chosen otherwise, and increase diversity of smaller communities. Recruitment and retention programs also increase the participating site's ability to compete with larger, higher paying hospitals or clinics.

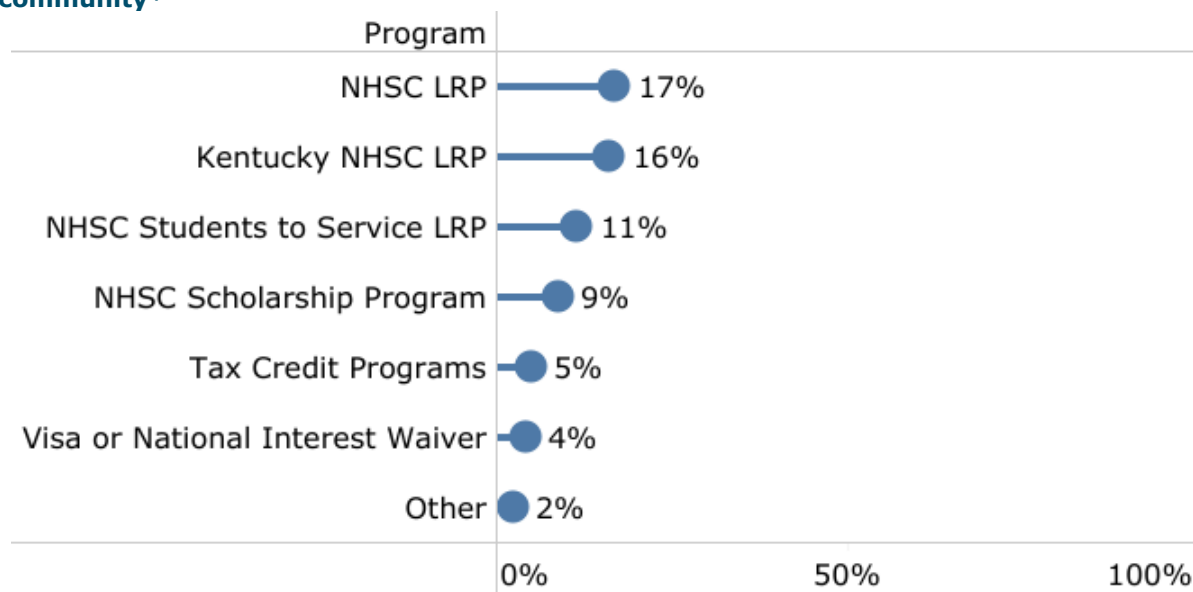
Challenges of these programs are that the participating provider may leave the assigned area after the commitment is over, the application process is cumbersome, awareness of the programs is low, and a lack of provider interest to participate, despite the benefits. Also, there are often financial requirements to participate that might be challenging for smaller clinics or hospitals. Another challenge noted by an interviewee is that when recruitment and retention programs bring in foreign trained providers, rural communities may have resentment and mistrust initially toward the provider.

Many interviewees stated that working in a rural area may be less enticing to a new graduate because they will be less likely to have equipment needed or a smaller team to work with, which may mean a more

*"It is sometimes a gamble to invest in a person in the community because they could leave when they do residency outside of the community."*

demanding working situation. Further, in rural areas, there are fewer amenities, such as tennis courts, walking paths, or dog parks. These factors, along with higher pay in urban and suburban areas, lead to higher provider turnover in rural areas. This can make it difficult for communities to gain trust and familiarity with a primary care provider. The increase in rural “Grow Your Own” strategies focuses on recruiting and training individuals from rural communities to stay and work as providers in those communities. However, not all training can be done in rural communities. As one interviewee stated, “it is sometimes a gamble to invest in a person in the community because they could leave when they do residency outside of the community.”

**Figure 25: Respondent knowledge of recruitment and retention programs available in the community\***



Note: ‘Other’ includes Kentucky Ready to Work, Public Service Loan Forgiveness, and Hospital/clinic recruitment. Percentages do not add to 100 because multiple answers could have been selected.

## The Road Forward

Interview respondents shared thoughts on what the future looks like for improving primary, dental, and mental health care in Kentucky. These thoughts include increasing training opportunities, increasing and streamlining insurance reimbursement, using non-traditional and allied health professionals, and community engagement. Specifically, interviewees suggested:

1. More residency programs in rural communities
2. More community health centers (FQHCs and RHCs) across the state
3. Increase competitiveness of pay through increased reimbursement
4. Streamline reimbursement processes
5. Conduct population health analyses and explore opportunities to incentivize prevention
6. Train primary care providers in team care and align with dental and mental health; create a reimbursement system that supports team care



7. Look beyond traditional clinicians to allied health practitioners
8. Focus on training behavioral health nurse practitioners
9. Increase use of community health workers and explore Medicaid reimbursement
10. Engage communities by exploring social determinants of health with community members, including system barriers that affect vulnerable populations (inadequate housing, water, etc.)

## Conclusion

According to Kentucky PCO stakeholders, Kentucky has made progress toward overcoming challenges related to primary care in recent years. The implementation of FQHCs, RHCs, mobile units, and telehealth has increased access to primary, dental, and mental health care services for Kentuckians, and begins to bridge the health care gap for those disparately affected by limited access, such as low income and racial/ethnic minorities. However, challenges still exist and more is needed to increase access and improve health outcomes in HPSA designated areas and counties with worse health status and access rankings in western, southern and eastern sections of the state. More FQHCs are needed to reach Kentuckians in these areas, RHCs that are already in these areas need a broader range of services and more resources, affordable broadband connectivity is still needed in some rural counties, and transportation remains a challenge for many. Leading primary care workforce concerns include a lack of providers in rural areas and low retention of primary care staff, which stem from a lack of competitive pay and reimbursement issues. To overcome these challenges, Kentucky PCO stakeholders recommend building training and educational capacity locally for the primary, dental, and mental health care workforce, exploring improvements to reimbursements for providers, increasing awareness of workforce recruitment and retention programs, and increasing the use of community health workers, allied health professionals, and behavioral health nurse practitioners.

## References

- Health Resources & Services Administration. (2020, 12 2). *Data by Geography, Kentucky*. Retrieved from Health Resources & Services Administration: <https://data.hrsa.gov/geo>
- Robert Wood Johnson Foundation. (2020, 12 2). *Kentucky County Health Rankings*. Retrieved from County Health Rankings: <https://www.countyhealthrankings.org/app/kentucky/2020/overview>
- The Commonwealth Fund. (2020). *2020 Scorecard on State Health System Performance*. New York: The Commonwealth Fund.
- US Census Bureau. (2020, 12 2). *US and KY Quickfacts*. Retrieved from US Census Bureau: [https://www.census.gov/quickfacts/fact/table/US/PST045219?](https://www.census.gov/quickfacts/fact/table/US/PST045219?_lang=en)



## Appendix A: Rankings

**Table A1: County Health Status Rankings \***

County	Poor or Fair	Physical Distress	Mental Distress	Obesity	Diabetes	Low Birth Weight	Preventable Hospital Stays	Excessive Drinking	Smoking	Physically Inactive	Teen Births	Drug OD Score	Average Health Ranking
Oldham County	1	1	1	1	6	5	5	114	1	1	1	47	1
Lyon County	13	7	6	3	34	11	25	70	11	48	29	32	2
Woodford County	9	11	10	26	8	36	1	97	4	4	2	86	3
Shelby County	15	13	11	16	35	23	24	98	8	18	11	72	4
Marshall County	11	12	17	93	20	7	23	79	12	28	24	30	5
Boone County	3	3	3	59	20	4	31	117	3	11	5	100	6
Fayette County	5	9	16	4	13	53	6	119	17	2	7	109	7
Daviess County	18	23	22	19	43	22	10	86	2	27	40	57	8
Nelson County	6	6	9	55	28	40	3	108	7	19	20	83	9
Scott County	7	8	8	45	3	34	40	115	6	20	10	97	10
Warren County	17	25	19	11	3	69	52	112	21	7	6	57	11
Trigg County	30	19	21	32	64	6	13	82	26	42	51	18	12
Campbell County	12	15	15	23	10	32	49	118	14	8	13	113	13
Calloway County	51	49	51	34	11	3	68	111	16	22	3	10	14
Boyle County	23	42	28	8	76	45	27	87	27	3	23	68	15
Henry County	45	41	43	9	17	17	34	68	38	9	39	101	16
Livingston County	33	38	42	26	9	31	97	60	23	48	44	18	17
Kenton County	2	4	5	35	26	63	21	120	40	14	21	118	17
Spencer County	4	2	2	73	113	19	45	109	5	35	9	68	19
Hancock County	39	21	33	18	90	9	2	96	47	39	84	7	20
Pendleton County	14	14	14	35	1	37	53	106	22	20	55	115	21
Caldwell County	28	43	39	39	81	26	32	59	19	28	90	9	22
Washington County	21	34	23	50	87	51	16	85	24	13	18	75	23
Meade County	27	27	20	74	68	10	56	104	48	42	16	7	24
Breckinridge County	49	44	45	2	53	46	78	64	65	14	26	18	25
Bourbon County	41	37	36	14	20	48	51	61	31	46	22	97	25
Madison County	19	35	35	55	16	78	18	110	9	5	8	120	27
Clark County	16	18	24	67	20	77	12	66	10	26	62	120	28
Jessamine County	32	31	27	39	41	59	9	94	28	36	12	113	29
Jefferson County	34	16	7	25	39	81	46	116	20	12	17	113	30
Bullitt County	8	5	4	49	101	20	76	107	18	31	15	100	31
Harrison County	25	28	32	59	14	42	35	78	25	58	49	90	32
McCracken County	47	36	25	13	28	64	30	113	42	32	48	61	33
Carlisle County	67	78	78	6	18	1	63	43	62	73	54	7	34

County	Poor or Fair	Physical Distress	Mental Distress	Obesity	Diabetes	Low Birth Weight	Preventable Hospital Stays	Excessive Drinking	Smoking	Physically Inactive	Teen Births	Drug OD Score	Average Health Ranking
Mercer County	36	40	38	7	76	73	43	80	34	34	36	54	35
Mason County	43	32	40	48	43	29	11	50	66	63	52	80	36
Anderson County	10	10	13	78	81	14	37	101	15	81	33	91	37
Bracken County	52	51	54	24	12	90	15	84	41	48	34	64	38
Hopkins County	24	30	37	65	79	41	60	25	32	70	87	22	39
Larue County	55	47	47	67	15	58	81	62	49	46	37	14	40
Green County	46	55	50	50	39	35	88	27	43	45	53	47	40
Fleming County	38	56	61	45	55	33	59	92	59	30	32	25	42
Crittenden County	54	54	56	19	3	38	119	81	56	39	66	9	43
Hardin County	22	22	18	88	62	13	66	99	45	58	28	75	44
Franklin County	31	17	12	81	51	89	64	102	13	16	25	104	45
Simpson County	37	33	34	90	57	83	91	88	39	10	38	25	46
Edmonson County	59	58	58	70	96	2	73	76	54	6	27	54	47
Logan County	53	48	52	94	6	16	80	93	63	33	73	27	48
Garrard County	35	24	30	96	99	88	17	89	30	22	47	63	49
Gallatin County	20	26	29	15	71	74	19	100	44	58	68	117	50
Butler County	57	66	75	19	62	8	83	58	74	53	76	14	51
Ballard County	40	39	44	72	90	67	55	56	33	114	50	4	52
Hickman County	93	88	94	12	64	21	111	9	70	89	19	2	53
Owen County	44	29	31	57	110	55	8	83	37	84	31	114	54
Hart County	81	86	80	16	1	24	48	31	78	89	81	70	55
Muhlenberg County	63	71	55	59	36	30	70	38	55	84	91	38	56
Trimble County	29	20	26	78	79	80	72	95	35	70	43	72	57
Cumberland County	70	59	66	82	93	25	116	30	50	64	57	4	58
Metcalfe County	89	94	92	39	43	15	39	28	94	75	98	12	59
McLean County	48	50	49	87	112	115	22	37	36	58	71	47	60
Graves County	65	72	63	53	36	12	101	63	60	110	64	37	61
Taylor County	72	74	79	58	24	61	57	46	58	62	46	102	62
Barren County	84	87	77	43	32	27	36	49	67	109	80	57	63
Marion County	75	67	65	78	57	71	7	41	86	113	41	49	64
Todd County	50	60	57	59	28	68	89	69	64	115	30	65	65
Robertson County	90	92	97	5	120	75	69	13	81	38		12	66
Menifee County	69	64	53	33	119	18	41	45	46	76	102	92	67
Allen County	56	52	59	85	36	97	67	77	61	118	35	21	68
Webster County	73	61	71	59	48	85	54	57	85	53	92	32	69
Montgomery County	58	73	72	31	66	76	4	35	84	82	88	108	70

County	Poor or Fair	Physical Distress	Mental Distress	Obesity	Diabetes	Low Birth Weight	Preventable Hospital Stays	Excessive Drinking	Smoking	Physically Inactive	Teen Births	Drug OD Score	Average Health Ranking
Russell County	80	79	82	26	41	86	29	19	76	80	99	85	71
Henderson County	42	45	46	59	95	108	74	91	52	48	77	49	72
Boyd County	26	46	41	109	84	100	71	42	53	56	60	117	73
Carroll County	61	69	62	10	55	62	103	67	68	42	101	107	74
Laurel County	62	75	73	98	87	52	42	48	51	82	75	63	75
Christian County	60	80	67	47	18	79	77	103	88	53	107	30	76
Pulaski County	74	84	81	76	70	39	26	55	97	66	82	61	77
Grant County	64	62	64	39	68	49	14	90	80	99	72	113	78
Union County	71	57	60	22	72	116	87	72	69	100	74	21	79
Adair County	66	70	76	111	103	44	79	75	72	70	14	41	79
Greenup County	86	53	48	108	108	60	85	44	29	67	45	97	81
Ohio County	79	65	70	65	51	43	62	71	71	115	104	54	82
Morgan County	96	91	87	86	25	99	20	65	102	73	61	59	83
Fulton County	105	100	100	100	57	102	95	11	99	24	83	1	84
Powell County	76	76	83	30	105	57	38	73	91	39	119	104	85
Rowan County	68	98	101	90	53	82	84	105	90	37	4	81	86
Bath County	88	85	91	116	46	28	44	39	77	104	94	87	87
Monroe County	78	68	69	77	114	66	120	52	82	92	56	41	88
Whitley County	99	104	98	38	28	113	33	40	92	97	103	70	88
Lincoln County	92	83	86	89	99	91	50	36	79	24	89	98	90
Wayne County	102	97	89	107	57	72	28	26	93	101	105	42	91
Owsley County	103	107	107	120	27	93	104	15	109	17	78	41	92
Rockcastle County	77	82	74	44	61	106	98	74	89	91	42	85	93
Clinton County	85	89	99	54	75	65	113	29	87	95	100	33	94
Nicholas County	87	90	90	35	86	87	75	53	96	104	79	47	95
Lewis County	91	93	96	117	66	56	47	47	104	107	70	37	96
Grayson County	83	81	84	83	78	47	92	54	95	93	65	79	97
Johnson County	94	63	68	119	106	95	99	17	57	95	67	58	98
Casey County	98	102	103	52	73	50	106	32	110	52	96	88	99
Carter County	82	77	85	100	83	54	65	51	73	119	86	106	100
Lawrence County	106	99	88	102	116	112	90	34	75	68	63	37	101
Wolfe County	118	119	119	67	46	84	82	1	118	111	118	26	102
Knox County	117	115	115	99	48	109	93	4	117	77	106	15	103
Magoffin County	110	105	106	74	93	101	94	18	106	56	108	47	104
Lee County	109	109	111	103	32	94	107	16	112	69	85	76	105
Harlan County	111	117	118	29	108	107	117	2	114	65	115	51	106

County	Poor or Fair	Physical Distress	Mental Distress	Obesity	Diabetes	Low Birth Weight	Preventable Hospital Stays	Excessive Drinking	Smoking	Physically Inactive	Teen Births	Drug OD Score	Average Health Ranking
Pike County	95	106	104	95	106	98	108	8	83	111	69	75	107
Jackson County	100	110	108	118	103	92	58	21	111	101	111	30	108
Knott County	112	111	113	113	97	104	105	6	101	120	58	37	109
Estill County	104	101	105	106	102	70	96	22	103	106	59	105	110
Martin County	108	103	95	110	85	117	118	33	105	86	95	25	111
Leslie County	107	108	109	115	87	118	100	14	107	79	97	50	112
McCreary County	120	120	120	103	74	96	86	5	120	117	117	21	113
Letcher County	101	96	102	96	114	120	115	12	108	87	93	79	114
Perry County	97	95	93	112	90	110	114	23	98	94	109	93	115
Clay County	119	116	116	71	48	119	110	24	119	87	110	90	116
Elliott County	114	113	110	105	110	111	61	20	115	97	114	83	117
Breathitt County	116	114	114	90	117	114	109	10	113	77	112	68	118
Bell County	113	118	117	83	118	105	102	3	116	108	116	79	119
Floyd County	115	112	112	114	97	103	112	7	100	101	113	94	120

\*Note: sources are listed in Methods Section on Pages 4 and 5.

**Table A2: County Health Access Rankings**

County	Uninsured	Poverty	Annual Mammogram	Primary Care Providers	Mental Health Providers	Dentists	Average Access Ranking
McCracken County	23	29	4	4	23	4	1
Boone County	2	2	11	24	47	16	2
Hardin County	7	21	40	25	8	5	3
Jefferson County	52	36	9	5	13	3	4
Daviess County	18	32	1	36	15	20	5
Campbell County	3	19	14	20	33	35	6
Kenton County	20	9	31	9	30	26	7
Boyd County	13	68	21	6	4	14	8
Boyle County	11	30	64	10	18	6	9
Oldham County	1	1	2	31	57	47	9
Fayette County	91	28	9	2	9	2	11
Nelson County	8	14	14	46	38	22	12
Hancock County	4	12	14		76	13	13
Montgomery County	28	35	35	38	10	21	14

County	Uninsured	Poverty	Annual Mammogram	Primary Care Providers	Mental Health Providers	Dentists	Average Access Ranking
Woodford County	73	5	2	19	55	27	15
Henderson County	17	44	26	35	43	32	16
Scott County	9	4	31	32	68	53	16
Madison County	31	46	14	34	39	34	18
Christian County	49	66	55	23	6	1	19
Greenup County	12	50	31	22	32	55	20
Mason County	46	66	64	18	7	11	21
Clark County	14	42	21	37	72	28	22
Warren County	94	46	40	17	16	18	23
Franklin County	22	18	82	68	39	7	24
Marion County	39	52	14	45	24	66	25
Bourbon County	110	46	14	15	44	12	26
Taylor County	37	73	26	21	22	63	27
Whitley County	45	96	82	12	2	17	28
Bullitt County	6	6	21	103	60	58	28
Anderson County	10	7	40	84	77	38	30
Hopkins County	63	65	35	3	62	29	31
Jessamine County	100	16	11	16	48	70	32
Washington County	75	22	11	71	46	40	33
Rowan County	80	84	59	11	5	31	34
Pulaski County	71	75	91	13	12	10	35
Perry County	65	104	97	1	3	9	36
Shelby County	107	7	26	62	36	49	37
Barren County	78	73	40	8	34	56	38
Caldwell County	15	62	31	33	86	62	38
Spencer County	5	3	35	52	104	90	38
Simpson County	36	15	97	60	65	25	41
Marshall County	24	13	21	56	105	79	41
Floyd County	50	116	102	30	1	15	43
Pike County	64	89	97	7	49	8	43
Owen County	33	41	64	65	87	24	43
Henry County	61	26	40	39	89	64	46
Grant County	38	23	74	42	67	76	47
Muhlenberg County	67	57	26	48	74	52	48
Calloway County	32	79	59	40	73	42	49
Ballard County	30	32	14		115	80	50
Lyon County	25	27	21	66	106	81	51

County	Uninsured	Poverty	Annual Mammogram	Primary Care Providers	Mental Health Providers	Dentists	Average Access Ranking
Meade County	16	11	64	97	66	82	52
McLean County	42	23	5		98	115	53
Mercer County	53	17	59	88	41	84	54
Johnson County	41	91	82	14	31	89	55
Harrison County	43	37	74	53	85	61	56
Bracken County	26	10	40	86	108	83	56
Letcher County	40	107	74	27	61	50	58
Menifee County	66	99	82	44	11	65	59
Livingston County	19	23	26	74	111	114	59
Union County	83	44	5	100	97	41	61
Logan County	70	62	5	80	83	71	62
Graves County	96	51	50	75	63	39	63
Grayson County	79	80	82	29	52	54	64
Ohio County	47	54	5	81	96	93	64
Cumberland County	92	87	97	49	19	36	66
Crittenden County	55	61	40	51		113	67
Monroe County	109	86	59	43	69	19	68
Carroll County	105	40	50	63	82	48	69
Elliott County	29	92	91	109	26	43	70
Lawrence County	76	95	50	61	17	96	71
Carlisle County	90	54	40	57		92	72
Adair County	60	89	64	67	21	100	73
Pendleton County	21	37	59	99	79	106	73
Hickman County	58	59	40	95		87	75
Carter County	44	107	74	96	28	72	76
Laurel County	82	77	82	55	84	45	77
Russell County	106	81	74	70	45	57	78
Estill County	84	94	64	83	81	30	79
Green County	114	62	64	104	42	51	80
Trigg County	59	19	40	98	114	107	80
Breathitt County	57	113	118	28	25	99	82
Fulton County	27	105	64	76		97	83
Rockcastle County	51	85	50	54	101	109	84
Gallatin County	117	31	91	47	53	112	85
Larue County	69	32	35	114	112	91	86
Breckinridge County	95	71	50	85	51	102	87
Fleming County	113	70	64	41	90	77	88

County	Uninsured	Poverty	Annual Mammogram	Primary Care Providers	Mental Health Providers	Dentists	Average Access Ranking
Powell County	54	82	82	111	71	60	89
Trimble County	35	46	74	87	109	110	90
Garrard County	85	43	55	82	110	86	90
Wayne County	104	102	102	26	56	73	92
Robertson County	86	72	119			33	93
Hart County	99	83	74	64	70	78	94
Metcalfe County	56	87	82	101	54	94	95
Bell County	74	109	111	50	113	23	96
Morgan County	97	101	106	91	20	69	97
Allen County	77	56	91	106	80	75	98
Lee County	48	117	106	78	36	103	99
Jackson County	68	100	91	94	102	37	100
Bath County	81	76	91	112	14	119	101
Owsley County	34	120	111		58	88	102
Clinton County	112	96	106	59	27	95	103
Magoffin County	118	103	106	77	35	59	104
Butler County	101	59	35	113	75	120	105
Webster County	115	69	55	89	95	85	106
Edmonson County	93	57	64	110	91	98	107
Lincoln County	108	77	82	72	59	118	108
Wolfe County	62	110	106	108	29	105	109
Lewis County	72	92	97	92	100	68	110
Nicholas County	103	37	74	107	103	104	111
Knott County	102	112	111	73	93	44	112
Knox County	89	111	102	93	78	74	113
Todd County	120	52	55	105	107	117	114
Leslie County	98	106	111	102	94	46	115
Harlan County	87	114	117	79	99	67	116
Martin County	88	119	111	69	88	116	117
McCreary County	111	115	116	90	50	111	118
Clay County	116	118	120	58	92	101	119
Casey County	119	98	102	115	64	108	120

\*Note: sources are listed in Methods Section on Pages 4 and 5.

## Appendix B: List of Acronyms

<b>Acronym</b>	<b>Meaning</b>
AHEC	Area Health Education Center
CMS RHC	Centers for Medicare and Medicaid Services Rural Health Center
FQHC	Federally Qualified Health Centers
FRYSC	Family Resources Youth Services Coalition
HC	Health Center
HRSA	Health Resources and Services Administration
KY PCO	Kentucky Primary Care Office
LRP	NHSC Loan Repayment Program
LRP	Loan Repayment Program
MHP	Mental Health Provider
NHSC	National Health Service Corps
PCP	Primary Care Provider
RHC	Rural Health Center
SLRP	State Loan Repayment Program
SP	NHSC Scholarship Program
SUD	Substance abuse disorder
UK	University of Kentucky